

**Reference
Guide**

hp StorageWorks SNMP Reference for Directors and Edge Switches

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Fifth Edition (July 2004)

Part Number: AA-RQ7BE-TE

This guide introduces simple network management protocol (SNMP) and the associated commands to manage a network. It also explains SNMP management support for HP StorageWorks Directors, Edge Switches, and the HA-Fabric Manager (HAFM) server.



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SNMP Reference for Directors and Edge Switches

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About This Guide

This reference guide provides information to help you:

- Understand management capabilities for HP StorageWorks Directors and Edge Switches using the simple network management protocol (SNMP).
- Utilize SNMP support for Directors, Edge Switches, and the High Availability Fabric Manager (HAFM) server.
- Obtain information about Management Information Bases (MIBs).

“About this Guide” topics include:

- [Overview](#), page 8
- [Conventions](#), page 9
- [Rack Stability](#), page 12
- [Getting Help](#), page 13

Overview

This section covers the following topics:

- [Intended Audience](#)
- [Related Documentation](#)

Intended Audience

This book is intended for use by administrators who are experienced with the following:

- Fibre Channel technology.
- StorageWorks Fibre Channel switches by Hewlett-Packard.
- Simple network management protocol.

Related Documentation

For a list of corresponding documentation, see the Related Documents section of the Release Notes that came with this product.

For the latest information, documentation, and firmware releases, please visit the HP StorageWorks web site:

<http://h18006.www1.hp.com/storage/saninfrastructure.html>.

For information about Fibre Channel standards, visit the Fibre Channel Industry Association web site:

<http://www.fibrechannel.org>.

Conventions

Conventions consist of the following:

- [Document Conventions](#)
- [Text Symbols](#)
- [Equipment Symbols](#)

Document Conventions

This document follows the conventions in [Table 1](#).

Table 1: Document conventions

Convention	Element
Blue text: Figure 1	Cross-reference links
Bold	Menu items, buttons, and key, tab, and box names
<i>Italics</i>	Text emphasis and document titles in body text
Monospace font	User input, commands, code, file and directory names, and system responses (output and messages)
<i>Monospace, italic font</i>	Command-line and code variables
Blue underlined sans serif font text (http://www.hp.com)	Web site addresses

Text Symbols

The following symbols may be found in the text of this guide. They have the following meanings:



WARNING: Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.



Caution: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Tip: Text in a tip provides additional help to readers by providing nonessential or optional techniques, procedures, or shortcuts.

Note: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Equipment Symbols

The following equipment symbols may be found on hardware for which this guide pertains. They have the following meanings:



Any enclosed surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. Enclosed area contains no operator serviceable parts.

WARNING: To reduce the risk of personal injury from electrical shock hazards, do not open this enclosure.



Any RJ-45 receptacle marked with these symbols indicates a network interface connection.

WARNING: To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.



Any surface or area of the equipment marked with these symbols indicates the presence of a hot surface or hot component. Contact with this surface could result in injury.

WARNING: To reduce the risk of personal injury from a hot component, allow the surface to cool before touching.



Power supplies or systems marked with these symbols indicate the presence of multiple sources of power.

WARNING: To reduce the risk of personal injury from electrical shock, remove all power cords to completely disconnect power from the power supplies and systems.



Any product or assembly marked with these symbols indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manually handling material.

Rack Stability

Rack stability protects personnel and equipment.



WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
 - The full weight of the rack rests on the leveling jacks.
 - In single rack installations, the stabilizing feet are attached to the rack.
 - In multiple rack installations, the racks are coupled.
 - Only one rack component is extended at any time. A rack may become unstable if more than one rack component is extended for any reason.
-

Getting Help

If you still have a question after reading this guide, contact an HP authorized service provider or access our web site: <http://www.hp.com>.

HP Technical Support

Telephone numbers for worldwide technical support are listed on the following HP web site: <http://www.hp.com/support/>. From this web site, select the country of origin.

Note: For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP Storage Web Site

The HP web site has the latest information on this product, as well as the latest drivers. Access storage at: <http://www.hp.com/country/us/eng/prodserv/storage.html>. From this web site, select the appropriate product or solution.

HP Authorized Reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP web site for locations and telephone numbers: <http://www.hp.com>.

Introduction to SNMP

1

Network management is a broad term, including workstation configuration, assignment of IP addresses, network design, architecture, security, and topologies. All this can fall within the scope of a network manager.

Any protocol for managing networks must allow virtually all network devices and systems to communicate statistics and status information to network management stations (network managers). This communication must be independent of the primary network transmission medium and not degrade the efficiency of the network. Network managers must be able to obtain status information from managed devices, and make changes in the way the managed devices handle network traffic.

Network managers must be able to do this without knowing anything about the managed device itself. Management using the simple network management protocol (SNMP) is one way of meeting these requirements.

SNMP Management

SNMP management is a mechanism for network management that is complete, but simple. It is designed on the manager/agent paradigm, with the agent residing in the managed device. Information is exchanged between agents (devices on the network being managed) and managers (devices on the network through which management is done).

There are many possible transactions between agents and managers. These transactions vary widely with the different types of devices that can be managed. With so many varied requirements for reporting and management, the list of commands a manager must be able to issue is overwhelming, and every new manageable device can increase the list. SNMP was created to allow all these things to be easily done on any growing network.

SNMP operates on a simple fetch/store concept. With SNMP, the available transactions between manager and agent are limited to a handful. The manager can request information from the agent, or modify variables on the agent. The agent can respond to a request by sending information, or if enabled to do so, automatically notify the manager of a change of status on the agent (issue a trap).

With SNMP, administrators can manage Director and Edge Switch configurations, faults, performance, accounting, and security from remote SNMP management stations.

SNMP Simplified

SNMP is the only protocol for managing networks that is widely available from many vendors of Transmission Control protocol/Internet protocol (TCP/IP) networks and internetworks. SNMP:

- Allows network management with a simple set of commands.
- Allows new devices added to a network to be easily managed, with minimal intervention.
- Is adequate for many basic network management needs.
- Is generalized for application to networks other than TCP/IP, such as IPX and OSI.
- Provides considerable versatility for managing a great many types of devices.
- Allows all networks to employ the same method for management.

SNMP Commands

A manager requests information from an agent by sending a single command, the `Get` command. The `Get` command also has a variation (`GetNextRequest`) that permits more efficient operation:

- `GetRequest` – Requests the value of a specified variable on the agent. This command is used to retrieve management data.
- `GetNextRequest` – Requests the value of the next variable after the one specified in the command. This command is used to retrieve lists and tables of management data.

An agent responds to a request by sending a single command, the `GetResponse` command. This command contains the requested information.

A manager changes information (variables) in the agent by sending a single command, the `SetRequest` command. This command is used to manipulate management data.

A trap is used by an agent to report extraordinary events. Refer to “[Traps and Their Purpose](#)” on page 19. [Figure 1](#) illustrates SNMP commands and responses:

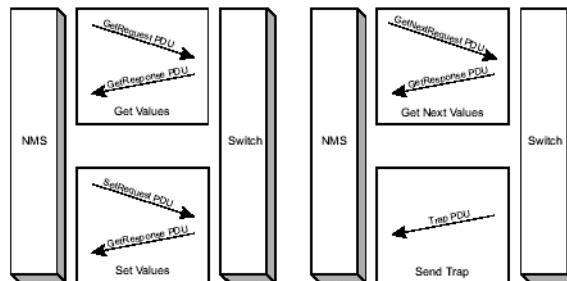


Figure 1: SNMP commands and responses

Why Variables Exist in a Managed Device

Variables are the means by which a Director or Edge Switch (and other devices) keep track of their performance, control their own performance, and provide access to information about their performance for network managers. A simple example of a variable’s use is to set a port offline and turn the port back on. Some variables just hold values that indicate status (for example, error counts). SNMP allows network managers to have access to some of the same variables for network management.

Note: For purposes of the following explanation, an object is a data variable that represents an attribute of a managed device.

How SNMP Changes Variables (Objects) in a Managed Device

An agent is the entity that interfaces to the object being managed ([Figure 2](#)). The agent understands the language of SNMP and translates between the manager and the object. Objects may be retrieved and/or modified by the manager, and it is the agent's job to return the requested object's value.

Within the agent is at least one, possibly several, collections of definitions called Management Information Bases (MIBs). When an agent supports a standard MIB, it agrees to provide and make available the variables listed in the MIB.

A MIB is a hierarchical tree of groups and variables. Operators at a network management station enter a command with supported groups and variables from the MIB.

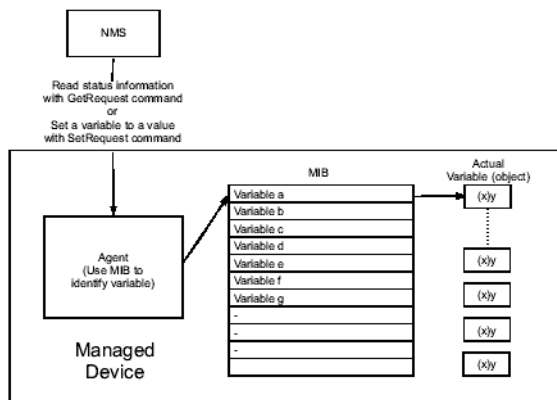


Figure 2: Retrieving or setting values using MIBs

Standard MIBs

Standard MIBs are those available with SNMP and designed for standard operation with a wide variety of managed devices. “[SNMP Support](#)” on page 21 describes the standard MIBs used by HP StorageWorks Directors, Edge Switches, and the HA-Fabric Manager (HAFM) application.

Standard MIBs are:

- MIB-II (Internet MIB), as described in RFC 1213: supported by all Directors and Edge Switches.
- Fibre Alliance (FCMGMT) MIB, version 3.1: supported by all Directors and Edge Switches.
- Fibre Channel Fabric Element (FCFE), version 1.10: supported by all Directors, Edge Switches, and HAFM.

Private Enterprise MIBs

Private MIBs are those provided by the manufacturer of the managed devices to allow management of device-specific items. “[SNMP Support](#)” on page 21 describes the private MIBs in more detail.

The private enterprise MIB is the FCEOS MIB, which is used by Directors and Edge Switches to support zoning, port binding, threshold alerts, and trunking.

Traps and Their Purpose

Traps are unsolicited status reports, or status change indicators, that a managed object sends to a network manager. The destination address for traps is a configuration item for each managed agent.

SNMP Support

2

This chapter describes SNMP support for HP StorageWorks Directors, Edge Switches, and the HA-Fabric Manager (HAFM) server.

SNMP Management

SNMP is a protocol that uses the User Data Protocol (UDP) to exchange messages between an SNMP agent (in a managed device) and a management station residing on a network. Although SNMP can be made available over other protocols, HP StorageWorks Directors, Edge Switches, and the HA-Fabric Manager (HAFM) application only support UDP.

Overview

To be monitored and managed remotely by a network management station, each Edge Switch or Director is equipped with an SNMP agent. This agent is a software process within the switch that receives management requests and generates corresponding responses by accessing the data specified for the MIB-II, Fabric Element MIB, Fibre Alliance MIB, or FCEOS enterprise-specific MIB. In addition, the agent gives each switch the ability to notify a management station when an important event occurs, by sending a trap to the management station.

Six MIBs are supported:

- A subset of the Standard MIB-II for TCP/IP-based Internet, as specified in RFC 1213.
- Fabric Element MIB containing support for FL_Ports, as specified in Fibre Channel standards.
- Fibre Alliance MIB (also referred to as the FC Management MIB), v3.0.
- Fibre Alliance MIB (also referred to as the FC Management MIB), v3.1.
- FCEOS MIB, which is the HP enterprise-specific MIB supporting HP Edge Switch and Director firmware.
- SNMP Framework MIB.

EOS Trap Overview

All EOS traps are SNMPv1 format, regardless of MIB definition syntax.)

SNMP traps are specific types of SNMP messages enclosed in user datagram protocol (UDP) packets as shown:

```
[ IP Packet  [ UDP Packet  [ SNMP Message ] ] ]
```

The SNMP message format is:

```
[ Version | Community | SNMP PDU ]
```

There are different formats for the SNMP protocol data units (PDUs), including trap PDUs, for SNMPv1 and SNMPv2. These are summarized here:

SNMPv1 Trap PDU:

```
[ Enterprise | Agent address | Generic trap type |
  Specific trap code | Time stamp | Object/Value 1 |
  Object/Value 2... ]
```

The following descriptions summarize these fields:

- Enterprise—Identifies the type of managed object generating the trap.
- Agent address—Provides the address of the managed object generating the trap.
- Generic trap type—Indicates one of a number of generic trap types.
- Specific trap code—Indicates one of a number of specific trap codes.
- Time stamp—Provides the amount of time that has elapsed between the last network reinitialization and generation of the trap.
- Variable bindings—The data field of the SNMPv1 Trap PDU. Each variable binding associates a particular object instance with its current value.

The following descriptions summarize the fields illustrated below for the SNMPv2 PDU format:

- PDU type—Identifies the type of PDU transmitted (Get, GetNext, Inform, Response, Set, or Trap).
- Request ID—Associates SNMP requests with responses.
- Error status—Indicates one of a number of errors and error types. Only the response operation sets this field. Other operations set this field to zero.
- Error index—Associates an error with a particular object instance. Only the response operation sets this field. Other operations set this field to zero.
- Variable bindings—Serves as the data field of the SNMPv2 PDU. Each variable binding associates a particular object instance with its current value (with the exception of Get and GetNext requests, for which the value is ignored).

Get, GetNext, Inform, Response, Set, and Trap PDUs Contain the Same Fields:

```
[PDU type | Request ID | Error status | Error index |
  Object/Value 1 | Object/Value 2]
```

For the SNMPv2 trap PDU, the first and second variable bindings contain the uptime and the trap OID, respectively. Following the uptime and trap OID are all the variable bindings specified in the MIB for that particular trap.

EOS Trap Summary Table

This table shows the different kinds of traps supported by the switch EOS firmware.

Note: All EOS traps are SNMPv1 format, regardless of MIB definition syntax.

Trap	Severity	Sent Because:	MIB	Trap OID	EOS	HAFM
Generic Authentication Failure	N/A	SNMP request from an invalid community is received.	RFC-1157		YES	NO
Generic Link Up	N/A		RFC-1157		YES	NO
Generic Warm Start	N/A	Software reset.	RFC-1157		YES	NO
Generic Cold Start	N/A	Power up.	RFC-1157		YES	NO
ES Port Change	N/A	A change in port status.	FCEOS	1.3.6.1.4.1.289.1	YES	NO
ES Fru Change	N/A	A change in FRU status.	FCEOS	1.3.6.1.4.1.289.2	YES	NO
ES Invalid Attachment	N/A	Invalid attachment to a port.	FCEOS	1.3.6.1.4.1.289.3	YES	NO
ES Threshold Alert	N/A	Threshold specified in threshold table has been exceeded for a port.	FCEOS	1.3.6.1.4.1.289.4	YES	NO

Switch SCN	Alert	Change in switch status.	FC-MGMNT	1.3.6.1.2.1.8888.0.1	YES	YES
Event SCN	Info	New system event was generated.	FC-MGMNT	1.3.6.1.2.1.8888.0.3	YES	YES
Sensor SCN	Alert	Change in status for FAN/FAN2/ POWER FRUs.	FC-MGMNT	1.3.6.1.2.1.8888.0.4	YES	YES
Port SCN	Alert	Change in port status.	FC-MGMNT	1.3.6.1.2.1.8888.0.5	YES	YES

Following are sections describing each trap, and the variables within the traps. For each variable, the OID is expressed as a numeric value first, followed by a second line showing the symbolic object name. Appended to the right of the OIDs are the index values for each object. Most of the objects within traps are actually table values.

Each SNMP table value must have an index appended to identify a specific table row. For example, the enterprise-specific port status change trap has the variable binding for `fcEosPortOpStatus`, which is a table entry value. So the OID for `fcEosPortOpStatus` (1.3.6.1.4.1.289.2.1.1.2.3.1.1.3) specifies a table column. To get a value for a specific port, the table index (`port_number`) must be appended to the OID. If the trap occurred because of a change on port 5, the actual variable OID would be 1.3.6.1.4.1.289.2.1.1.2.3.1.1.3.5.

Enterprise-specific Port Status Change Trap

This trap is sent for each port that has a status change. There is one variable binding, as follows:

Binding	OID	Value
1	1.3.6.1.4.1.289.2.1.1.2.3.1.1.3.port_number <code>fcEosPortOpStatus.port_number</code>	New status value. See definition for " <code>fcEosPortOpStatus</code> " on page 133.

Enterprise-specific FRU Status Change Trap

This trap is sent for each FRU that has a status change. There is one variable binding, as follows:

Binding	OID	Value
1	<p>1.3.6.1.4.1.289.2.1.1.2.2.1.1.3.fru_code.fru_pos fcEosFruStatus.fru_code.fru_pos Where fru_code has one of the following values:</p> <ul style="list-style-type: none"> 0x01, Backplane 0x02, Control Processor card 0x03, Serial crossbar 0x04, ES-3032 center fan module 0x05, Fan module 0x06, Power supply module 0x07, Reserved 0x08, Longwave, Single-Mode, LC connector, 1 Gig (Port card) 0x09, Shortwave, Multi-Mode, LC connector, 1 Gig (Port card) 0x0A, Mixed, LC connector, 1 Gig (Port card) 0x0B, SFO pluggable, 1 Gig 0x0C, SFO pluggable, 2 Gig 0x0D, Longwave, Single-Mode, MT-RJ connector, 1 Gig 0x0E, Shortwave, Multi-Mode, MT-RJ connector, 1 Gig 0x0F, Mixed, MT-RJ connector, 1 Gig 0x10, F-Port, internal, 1 Gig <p>And where fru_pos is a number specific to each possible FRU position, which varies from product to product. For example, on a Director 2/140 there are three fans, numbered 1 to 3.</p>	<p>New status value. See definition for "fcEosFruStatus" on page 133.</p>

Enterprise-specific Invalid Attachment Trap

This trap is sent when an invalid attachment occurs (a device is attached, with a World Wide Name WWN specifically disallowed by port binding). There is one variable binding.

Binding	OID	Value
1	1.3.6.1.4.1.289.2.1.1.2.4.1.1.4.port_number fcEosPortAttachedWWN.port_number	WWN of invalid attached device. See definition for " fcEosPortAttachedWWN " on page 139.

Enterprise-specific Threshold Alert Trap

This trap is sent when port traffic exceeds a specified threshold. There are two variable bindings.

Binding	OID	Value
1	1.3.6.1.4.1.289.2.1.1.2.3.1.1.1.port_number fcEosPortIndex.port_number	Port number of port with threshold alert.
2	1.3.6.1.4.1.289.2.1.1.2.6.1.1.1.threshold_number fcEosTALIndex.threshold_number	The index of the threshold which was triggered.

FA MIB Switch Status Change Trap

This trap is sent when the switch status changes. There are two variable bindings.

Binding	OID	Value
1	1.3.6.1.2.1.8888.1.1.3.1.6.<unit-id> fcConnUnitStatus.<unit-id> Where unit-id is the WWN of the switch, with 8 zeros appended, for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0.0	Unit status. See definition for " FcConnUnitStatus " on page 91.
2	1.3.6.1.2.1.8888.1.1.3.1.5.<unit-id> fcConnUnitState.<unit-id> Where unit-id is the WWN of the switch, with 8 zeros appended, for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0.0	Unit state. See definition for " FcConnUnitStatus " on page 91.

FA MIB Event Trap

This trap is sent when an internal software event is generated. There are four variable bindings.

Binding	OID	Value
1	1.3.6.1.2.1.8888.1.1.3.1.1.<unit-id> fcConnUnitId.<unit-id> Where unit-id is the WWN of the switch, with 8 zeros, appended for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0	The value is the same as unit-id: the WWN of the switch, with 8 zeros appended, for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0

2	<p>1.3.6.1.2.1.8888.1.1.7.1.5.<unit-id><event-index> fcConnUnitEventType.<unit-id><event-index> Where unit-id is the WWN of the switch with 8 zeros appended for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0 And where event-index is an integer index of the event table, a unique incrementing value assigned to each event. The event table always contains the most recent 200 events which met the filter criteria in place when the event occurred.</p>	<p>See definition for "FcConnUnitEventType" on page 111.</p>
3	<p>1.3.6.1.2.1.8888.1.1.7.1.6.<unit-id><event-index> fcConnUnitEventType.<unit-id><event-index> Where unit-id is the WWN of the switch with 8 zeros appended for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0 And where event-index is an integer index of the event table, a unique incrementing value assigned to each event. The event table always contains the most recent 200 events which met the filter criteria in place when the event occurred.</p>	<p>The value of this variable is the OID for fcConnUnitId: 1.3.6.1.2.1.8888.1.1.3.1.1.<unit-id> Where unit-id is the WWN of the switch, with 8 zeros appended, for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0</p>
4	<p>1.3.6.1.2.1.8888.1.1.7.1.7.<unit-d><event-index> fcConnUnitEventDescr.<unit-id><event-index> Where unit-id is the WWN of the switch, with 8 zeros appended, for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0 And where event-index is an integer index of the event table, a unique incrementing value assigned to each event. The event table always contains the most recent 200 events which met the filter criteria in place when the event occurred.</p>	<p>Event description string with a maximum length of 80 characters. This string will contain a numeric event code and other values describing the specific event.</p>

FA MIB Sensor Trap

This trap is generated whenever a status change occurs for a fan or power supply FRU. There is one variable binding.

Binding	OID	Value
1	1.3.6.1.2.1.8888.1.1.5.1.3.<unit-id>.<sensor-index> fcConnUnitSensorStatus.<unit-id>.<sensor-index> Where unit-id is the WWN of the switch, with 8 zeros appended, for a total length of 16. Example: 1.2.3.4.5.6.7.8.0.0.0.0.0.0.0 And where sensor-index refers to the FRU in the sensor table which has changed state. For example, if sensor-index was 5, you could look at the 5 th entry in the sensor table to determine which FRU was affected.	See description for “FcConnUnitSensorStatus” on page 96.

FA MIB Port Status Change Trap

This trap occurs whenever a port status change occurs. There are two variable bindings.

Binding	OID	Value
1	1.3.6.1.2.1.8888.1.1.6.1.6.<port-index> fcConnUnitPortStatus.<port-index> Where port-index is the port number normalized to the range 1-140.	See definition for “FcConnUnitPortStatus” on page 101.
2	1.3.6.1.2.1.8888.1.1.6.1.5.<port-index> fcConnUnitPortState.<port-index> Where port-index is the port number normalized to the range 1-140.	See definition for “FcConnUnitPortStatus” on page 101.

Example

Interpretation of trap information from HP OpenView

The output from HP OpenView for a series of traps is shown below:

```
- Minor Thu May 02 09:29:30 10.235.4.111 NO
TRAPD.CONF FMT FOR .1.3.6.1.2.1.8888.0.1 ARGS(2):
[1]
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcC
onnUnitTable.fcConnUnitEntry.fcConnUnitStatus.3.2.0
.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): ok [2]
```

```

mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConnUnitTable.fcConnUnitEntry.fcConnUnitState.3.2.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): online
- Minor Thu May 02 09:29:31 10.235.4.111 NO
TRAPD.CONF FMT FOR .1.3.6.1.2.1.8888.0.1 ARGS(2):
[1]
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConnUnitTable.fcConnUnitEntry.fcConnUnitStatus.7.0.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): ok [2]
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConnUnitTable.fcConnUnitEntry.fcConnUnitState.7.0.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): online
- Minor Thu May 02 09:29:46 10.235.4.111 NO
TRAPD.CONF FMT FOR .1.3.6.1.2.1.8888.0.1 ARGS(2):
[1]
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConnUnitTable.fcConnUnitEntry.fcConnUnitStatus.3.2.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): ok [2]
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConnUnitTable.fcConnUnitEntry.fcConnUnitState.3.2.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): online
- Minor Thu May 02 09:29:47 10.235.4.111 NO
TRAPD.CONF FMT FOR .1.3.6.1.2.1.8888.0.1 ARGS(2):
[1]
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConnUnitTable.fcConnUnitEntry.fcConnUnitStatus.7.0.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): ok [2]
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConnUnitTable.fcConnUnitEntry.fcConnUnitState.7.0.0.0.0.0.0.0.0.0.0.0.0.0.0 (Integer): online

```

This output from HP OpenView contains information for four traps. Blank lines have been added for clarity.

The first step is to determine which trap caused this output. Looking after the words NO TRAPD. CONF FMT FOR, you can see the numbers 1.3.6.1.2.1.8888.0.1, which identifies this as a switch SCN trap.

After the trap OID, the variable bindings are listed. HP OpenView calls them “ARGS” and shows how many have been found in this particular trap (in this case, 2).

The first ARG is identified by its OID in symbolic form:

```
mgmt.mib-2.fcMgmtMIB.fcMgmtObjects.fcMgmtConfig.fcConn  
UnitTable.fcConnUnitEntry.fcConnUnitStatus.
```

The numbers following `fcConnUnitStatus` are the unit-id, which identifies a particular switch in a fabric. (The unit-id is the first index for all tables in the Fibre Alliance MIB). In this case, these traps are most likely from HAFM, which uses a different numbering scheme for the unit-id than the EOS firmware (see below). In both cases the unit-id is a string of 16 numbers. Following the unit-id is the actual value of the first variable: `ok`. The value transmitted in the trap is numeric (an integer) but HP OpenView has cross-referenced this numeric value with the MIB definitions to provide the symbolic form (`ok`). The second variable binding is `fcConnUnitState` and has the same indexing scheme for unit-id.

Numbering scheme for unit-id (`fcConnUnitId`) for EOS and HAFM:

EOS: WWN(8 numbers).0.0.0.0.0.0.0

HAFM: product-code.product-id.0.0.0.0.0.0.0.0.0.0.0.0.0

In both cases the total length is 16 numbers.

This identifier is used as the first index in all FA MIB tables.

Example

Interpretation of trap information from the MIB Browser:

```
1. 3: Specific trap #3 trap(v1) received from:
    172.16.7.243 at 09/25/2002 3:06:45 PM
    Time stamp: 0 days 00h:00m:12s.36th
    Agent address: 172.16.7.243 Port: 161 Transport:
    IP/UDP Protocol: SNMPv1 Trap
    Manager address: 172.16.7.107 Port: 162 Transport:
    IP/UDP
    Community: public
    SNMPv1 agent address: 172.16.7.243
    Enterprise: fcMgmtMIB
    Specific Trap MIB Lookup Results
    Name: fcEosPortBindingViolation, Module: FCEOS-MIB,
    Enterprise: HP
    Bindings (4)
    Binding #1:
```



```

fcConnUnitId.16.0.8.0.136.122.40.0.0.0.0.0.0.0.0.0
*** (octets)
00.00.00.10.00.00.00.00.00.00.00.08.00.00.00.00
(hex)

```

Binding #2:

```

fcConnUnitEventType.16.0.8.0.136.122.40.0.0.0.0.0.0
.0.0.0.295 *** (int32) status(3)

```

Binding #3:

```

fcConnUnitEventObject.16.0.8.0.136.122.40.0.0.0.0.0
.0.0.0.295 *** (oid)
fcConnUnitId.16.0.8.0.136.122.40.0.0.0.0.0.0.0.0

```

Binding #4:

```

fcConnUnitEventDescr.16.0.8.0.136.122.40.0.0.0.0.0
.0.0.0.295 *** (octets) Reason code
410<00><00><00><00><00><00><00><00><00><00><00><00>
<00><00><00><00><00><00><00><00><00><00><00><00>
><00><00><00><00><00><00><00><00><00><00><00><00>
...

```

2. 4: Specific trap #1 trap(v1) received from:
172.16.7.243 at 09/25/2002 3:06:45 PM
3. 5: Specific trap HP::fcEosFruScn #2 trap(v1)
received from: 172.16.7.243 at 09/25/2002 3:06:45 PM
4. 6: Specific trap #3 trap(v1) received from:
172.16.7.243 at 09/25/2002 3:06:45 PM
5. 7: Specific trap #3 trap(v1) received from:
172.16.7.243 at 09/25/2002 3:06:45 PM

As displayed by the MIB browser, the output above is shown in hierarchical tree form. Trap number 3 has been expanded to show the details of the information contained in the trap. The agent address is the IP address of the switch, and the management address is the address of the PC which was running the MIB browser. In this case the trap can be identified by the Enterprise (fcMgmtMIB – also known as the FA MIB) and the specific trap number (3), which identifies this as an FA MIB event trap. Lines labeled 4-7 are each for different traps. Referring to trap 3 again, the browser clearly displays the four variable bindings contained within a FA MIB event trap. Each variable binding is displayed in the format: OID data-type value.

MIB Definitions

This section provides definitions for the following MIBs:

- [MIB-II](#), page 34
- [Fabric Element Management MIB](#), page 63
- [Fibre Alliance MIB](#), page 85
- [Private \(Enterprise-specific\) FCEOS MIB](#), page 130

MIB-II

There are eleven groups of objects specified in MIB-II. The EOS SNMP agent supports eight groups:

- System group. This group provides general information about the managed system.
- Interfaces group.
- Address Translation group. This group is implemented, but the corresponding table may be empty.
- IP group.
- ICMP group.
- TCP group.
- UDP group.
- SNMP group. This group keeps statistics on the SNMP agent implementation itself.

System Group

MIB-2 Object Name	Type	Access	Description
sysDescr	DisplayString(0..255)	R	A textual description of the entity. This value should include the full name and version identification of the system's hardware type, software operating-system, and networking software. It is mandatory that this only contain printable ASCII characters.
sysObjectID	Object Identifier	R	The vendor's authoritative identification of the network management subsystem contained in the entity. This value is allocated within the SMI enterprises subtree (1.3.6.1.4.1) and provides an easy and unambiguous means for determining "what kind of box" is being managed. For example, if vendor "Flintstones, Inc." was assigned the subtree 1.3.6.1.4.1.4242, it could assign the identifier 1.3.6.1.4.1.4242.1.1 to its "Fred Router."
sysUpTime	TimeTicks	R	The time (in hundredths of a second) since the network management portion of the system was last re-initialized.
sysContact	DisplayString (0..255)	R	The textual identification of the contact person for this managed node, together with information on how to contact this person.

sysName	DisplayString (0..255)	RW	An administratively-assigned name for this managed node. By convention, this is the node's fully-qualified domain name.
sysLocation	DisplayString (0..255)	RW	The physical location of this node (for example, "telephone closet, 3rd floor").
sysServices	INTEGER	R	<p>A value which indicates the set of services that this entity primarily offers. The value is a sum. This sum initially takes the value zero. Then, for each layer, L, in the range 1 through 7, that this node performs transactions for, $2^{(L-1)}$ is added to the sum.</p> <p>For example, a node which performs primarily routing functions would have a value of 4 ($2^{(3-1)}$). In contrast, a node which is a host offering application services would have a value of 72 ($2^{(4-1)} + 2^{(7-1)}$).</p> <p>Note that in the context of the Internet suite of protocols, values should be calculated accordingly:</p> <ul style="list-style-type: none"> layer functionality 1 physical (for example, repeaters) 2 datalink/subnetwork (for example, bridges) 3 Internet (for example, IP gateways) 4 end-to-end (for example, IP hosts) 7 applications (for example, mail relays) <p>For systems including OSI protocols, layers 5 and 6 may also be counted.</p>

Interfaces Group

MIB-2 Object Name	Type	Access	Description
ifNumber	INTEGER	R	The number of network interfaces (regardless of their current state) present on this system.

Interfaces Table

The Interfaces table contains information on the entity's interfaces. Each interface is thought of as being attached to a *subnetwork*. Note that this term should not be confused with *subnet*, which refers to an addressing partitioning scheme used in the Internet suite of protocols.

MIB-2 Object Name	Type	Access	Description
ifIndex	INTEGER	R	A unique value for each interface. Its value ranges between 1 and the value of ifNumber. The value for each interface must remain constant at least from one re-initialization of the entity's network management system to the next re-initialization
ifDescr	DisplayString(0..255)	R	A textual string containing information about the interface. This string should include the name of the manufacturer, the product name, and the version of the hardware interface.

ifType	INTEGER	R	<p>The type of interface, distinguished according to the physical/link protocol(s) immediately “below” the network layer in the protocol stack.</p> <p>Values:</p> <p>other(1), none of the following</p> <p>regular1822(2),</p> <p>hdh1822(3),</p> <p>ddn-x25(4),</p> <p>rfc877-x25(5),</p> <p>ethernet-csmacd(6),</p> <p>iso88023-csmacd(7),</p> <p>iso88024-tokenBus(8),</p> <p>iso88025-tokenRing(9),</p> <p>iso88026-man(10),</p> <p>starLan(11),</p> <p>proteon-10Mbit(12),</p> <p>proteon-80Mbit(13),</p> <p>hyperchannel(14),</p> <p>fddi(15),</p> <p>lapb(16),</p> <p>sdlc(17),</p> <p>ds1(18), T-1</p> <p>e1(19), european equiv. of T-1</p> <p>basicISDN(20),</p> <p>primaryISDN(21), proprietary serial</p> <p>propPointToPointSerial(22),</p> <p>ppp(23),</p> <p>softwareLoopback(24),</p> <p>eon(25), - CLNP over IP [11]</p> <p>ethernet-3Mbit(26),</p> <p>nsip(27), - XNS over IP</p> <p>slip(28), - generic SLIP</p> <p>ultra(29), - ULTRA technologies</p> <p>ds3(30), - T-3</p> <p>sip(31), - SMDS</p> <p>frame-relay(32)</p>
--------	---------	---	--

ifMtu	INTEGER	R	The size of the largest datagram that can be sent/received on the interface, specified in octets. For interfaces that are used for transmitting network datagrams, this is the size of the largest network datagram that can be sent on the interface.
ifSpeed	Gauge	R	An estimate of the interface's current bandwidth in bits per second. For interfaces which do not vary in bandwidth or for those where no accurate estimation can be made, this object should contain the nominal bandwidth.
ifPhysAddress	PhysAddress	R	The interface's address at the protocol layer immediately "below" the network layer in the protocol stack. For interfaces which do not have such an address (for example, a serial line), this object should contain an octet string of zero length.
ifAdminStatus	INTEGER	RW	The desired state of the interface. The testing(3) state indicates that no operational packets can be passed.
ifOperStatus	INTEGER	R	The current operational state of the interface. The testing(3) state indicates that no operational packets can be passed.
ifLastChange	TimeTicks	R	The value of sysUpTime at the time the interface entered its current operational state. If the current state was entered prior to the last re-initialization of the local network management subsystem, this object contains a zero value.
ifInOctets	Counter	R	The total number of octets received on the interface, including framing characters.
ifInUcastPkts	Counter	R	The number of subnetwork-unicast packets delivered to a higher-layer protocol.
ifInNUcastPkts	Counter	R	The number of non-unicast (i.e., subnetwork-broadcast or subnetwork-multicast) packets delivered to a higher-layer protocol.

ifInDiscards	Counter	R	The number of inbound packets which were chosen to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.
ifInErrors	Counter	R	The number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol.
ifInUnknownProtos	Counter	R	The number of packets received via the interface which were discarded because of an unknown or unsupported protocol.
ifOutOctets	Counter	R	The total number of octets transmitted out of the interface, including framing characters.
ifOutUcastPkts	Counter	R	The total number of packets that higher-level protocols requested be transmitted to a subnetwork-unicast address, including those that were discarded or not sent.
ifOutNUcastPkts	Counter	R	The total number of packets that higher-level protocols requested be transmitted to a non-unicast (i.e., a subnetwork-broadcast or subnetwork-multicast) address, including those that were discarded or not sent.
ifOutDiscards	Counter	R	The number of outbound packets which were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free up buffer space.

ifOutErrors	Counter	R	The number of outbound packets that could not be transmitted because of errors.
ifOutQLen	Gauge	R	The length of the output packet queue (in packets).
ifSpecific	OBJECT IDENTIFIER	R	A reference to MIB definitions specific to the particular media being used to realize the interface. For example, if the interface is realized by an Ethernet, the value of this object refers to a document defining objects specific to Ethernet. If this information is not present, its value should be set to the OBJECT IDENTIFIER { 0 0 }, which is a syntactically valid object identifier, and any conforming implementation of ASN.1 and BER must be able to generate and recognize this value.

Address Translation Group/Table

Implementation of the Address Translation group is mandatory for all systems. Note however that this group is deprecated by MIB-II. That is, it is being included solely for compatibility with MIB-I nodes, and will most likely be excluded from MIB-III nodes. From MIB-II and onwards, each network protocol group contains its own address translation tables.

The Address Translation group contains one table, which is the union across all interfaces of the translation tables for converting a NetworkAddress (for example, an IP address) into a subnetwork-specific address. For lack of a better term, this document refers to such a subnetwork-specific address as a 'physical' address. Examples of such translation tables are: for broadcast media where ARP is in use, the translation table is equivalent to the ARP cache; or, on an X.25 network where non-algorithmic translation to X.121 addresses is required, the translation table contains the NetworkAddress to X.121 address equivalences.

MIB-2 Object Name	Type	Access	Description
atIfIndex	INTEGER	RW	The interface on which this entry's equivalence is effective. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.
atPhysAddresses	PhysAddress	RW	The media-dependent "physical" address. Setting this object to a null string (one of zero length) has the effect of invalidating the corresponding entry in the atTable object; that is, it effectively disassociates the interface identified with said entry from the mapping identified with said entry. It is an implementation-specific matter as to whether the agent removes an invalidated entry from the table. Accordingly, management stations must be prepared to receive tabular information from agents that corresponds to entries not currently in use. Proper interpretation of such entries requires examination of the relevant atPhysAddress object.
atNetAddress	NetworkAddress	RW	The NetworkAddress (for example, the IP address) corresponding to the media-dependent "physical" address.

IP Group

MIB-2 Object Name	Type	Access	Description
ipForwarding	INTEGER	RW	The indication of whether this entity is acting as an IP gateway in respect to the forwarding of datagrams received by, but not addressed to, this entity. IP gateways forward datagrams. IP hosts do not (except those source-routed via the host). Note that for some managed nodes, this object may take on only a subset of the values possible. Accordingly, it is appropriate for an agent to return a "bedevil" response if a management station attempts to change this object to an inappropriate value.
ipDefaultTTL	INTEGER	RW	The default value inserted into the Time-To-Live (TTL) field of the IP header of datagrams originated at this entity, whenever a TTL value is not supplied by the transport layer protocol.
ipInReceives	Counter	R	The total number of input datagrams received from interfaces, including those received in error.
ipInHdrErrors	Counter	R	The number of input datagrams discarded due to errors in their IP headers, including bad checksums, version number mismatches, other format errors, time-to-live exceeded, errors discovered in processing their IP options, and so forth.
ipInAddrErrors	Counter	R	The number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity. This count includes invalid addresses (for example, 0.0.0.0) and addresses of unsupported Classes (for example, Class E). For entities which are not IP Gateways and therefore do not forward datagrams, this counter includes datagrams discarded because the destination address was not a local address.

ipForwDatagrams	Counter	R	The number of input datagrams for which this entity was not their final IP destination. As a result, an attempt was made to find a route to forward them to that final destination. In entities which do not act as IP Gateways, this counter will include only those packets which were Source-Routed via this entity, and the Source-Route option processing was successful.
ipInUnknownProtos	Counter	R	The number of locally-addressed datagrams received successfully but discarded because of an unknown or unsupported protocol.
ipInDiscards	Counter	R	The number of input IP datagrams for which no problems were encountered to prevent their continued processing, but which were discarded (for example, for lack of buffer space). Note that this counter does not include any datagrams discarded while awaiting re-assembly.
ipInDelivers	Counter	R	The total number of input datagrams successfully delivered to IP user-protocols (including ICMP).
ipOutRequests	Counter	R	The total number of IP datagrams which local IP user-protocols (including ICMP) supplied to IP in requests for transmission. Note that this counter does not include any datagrams counted in ipForwDatagrams.
ipOutDiscards	Counter	R	The number of output IP datagrams for which no problem was encountered to prevent their transmission to their destination, but which were discarded (for example, for lack of buffer space). Note that this counter would include datagrams counted in ipForwDatagrams if any such packets met this (discretionary) discard criterion.

ipOutDiscards	Counter	R	The number of output IP datagrams for which no problem was encountered to prevent their transmission to their destination, but which were discarded (for example, for lack of buffer space). Note that this counter would include datagrams counted in ipForwDatagrams if any such packets met this (discretionary) discard criterion.
ipOutNoRoutes	Counter	R	The number of IP datagrams discarded because no route could be found to transmit them to their destination. Note that this counter includes any packets counted in ipForwDatagrams which meet this "no-route" criterion. Note that this includes any datagrams which a host cannot route because all of its default gateways are down.
ipReasmTimeout	INTEGER	R	The maximum number of seconds that received fragments are held while they are awaiting reassembly at this entity.
ipReasmReqds	Counter	R	The number of IP fragments received which needed to be reassembled at this entity.
ipReasmOKs	Counter	R	The number of successful IP datagrams.
ipReasmFails	Counter	R	The number of failures detected by the IP re-assembly algorithm (for whatever reason: timed out, errors, and so forth). Note that this is not necessarily a count of discarded IP fragments because some algorithms (notably the algorithm in RFC 815) can lose track of the number of fragments by combining them as they are received.

ipFragOKs	Counter	R	The number of IP datagrams that have been successfully fragmented at this entity.
ipFragFails	Counter	R	The number of IP datagrams that have been discarded because they needed to be fragmented at this entity but could not be, for example, because their Don't Fragment flag was set.
ipFragCreates	Counter	R	The number of IP datagram fragments that have been generated as a result of fragmentation at this entity.

IP Address Table

The IP address table contains this entity's IP addressing information.

MIB-2 Object Name	Type	Access	Description
ipAdEntAddr	IpAddress	R	The IP address to which this entry's addressing information pertains.
ipAdEntIfIndex	INTEGER	R	The index value which uniquely identifies the interface to which this entry is applicable. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipAdEntNetMask	IpAddress	R	The subnet mask associated with the IP address of this entry. The value of the mask is an IP address with all the network bits set to 1 and all the host's bits set to 0.
ipAdEntBcastAddr	INTEGER	R	The value of the least-significant bit in the IP broadcast address used for sending datagrams on the (logical) interface associated with the IP address of this entry. For example, when the Internet standard all-ones broadcast address is used, the value will be 1. This value applies to both the subnet and network broadcasts addresses used by the entity on this (logical) interface.
ipAdEntReasmMax Size	INTEGER (0..65535)	R	The size of the largest IP datagram that this entity can re-assemble from incoming IP fragmented datagrams received on this interface.

IP Routing Table

The IP routing table contains an entry for each route presently known to this entity

MIB-2 Object Name	Type	Access	Description
ipRouteDest	IpAddress	RW	The destination IP address of this route. An entry with a value of 0.0.0.0 is considered a default route. Multiple routes to a single destination can appear in the table, but access to such multiple entries is dependent on the table access mechanisms defined by the network management protocol in use.
ipRouteIfIndex	INTEGER	RW	The index value which uniquely identifies the local interface through which the next hop of this route should be reached. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipRouteMetric1	INTEGER	RW	The primary routing metric for this route. The semantics of this metric are determined by the routing protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.
ipRouteMetric2	INTEGER	RW	An alternate routing metric for this route. The semantics of this metric are determined by the routing protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.
ipRouteMetric3	INTEGER	RW	An alternate routing metric for this route. The semantics of this metric are determined by the routing protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.
ipRouteMetric4	INTEGER	RW	An alternate routing metric for this route. The semantics of this metric are determined by the routing protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.
ipRouteNextHop	IpAddress	RW	The IP address of the next hop of this route. (In the case of a route bound to an interface which is realized via a broadcast media, the value of this field is the agent's IP address on that interface.)

ipRouteType	INTEGER	RW	<p>The type of route. Note that the values direct(3) and indirect(4) refer to the notion of direct and indirect routing in the IP architecture. Setting this object to the value invalid(2) has the effect of invalidating the corresponding entry in the ipRouteTable object. That is, it effectively disassociates the destination identified with said entry from the route identified with said entry. It is an implementation-specific matter as to whether the agent removes an invalidated entry from the table. Accordingly, management stations must be prepared to receive tabular information from agents that corresponds to entries not currently in use. Proper interpretation of such entries requires examination of the relevant ipRouteType object.</p> <p>Values:</p> <p>other(1), - none of the following</p> <p>invalid(2), - an invalidated route</p> <p>direct(3), - route to directly connected (sub-)network</p> <p>indirect(4) - route to a non-localhost/network/sub-network</p>
-------------	---------	----	---

ipRouteProto	INTEGER	R	<p>The routing mechanism via which this route was learned. Inclusion of values for gateway routing protocols is not intended to imply that hosts should support those protocols.</p> <p>other(1), - none of the following</p> <p>local(2), - non-protocol information, for example, manually configured entries</p> <p>netmgmt(3), - set via a network management protocol</p> <p>icmp(4), - for example, obtained via ICMP,Redirect</p> <p>The remaining values are all gateway routing protocols:</p> <p>egp(5),</p> <p>ggp(6),</p> <p>hello(7),</p> <p>rip(8),</p> <p>is-is(9),</p> <p>es-is(10),</p> <p>ciscolgrp(11),</p> <p>bbnSpflgp(12),</p> <p>ospf(13),</p> <p>bgp(14)</p>
ipRouteAge	INTEGER	RW	<p>The number of seconds since this route was last updated or otherwise determined to be correct. Note that no semantics of 'too old' can be implied except through knowledge of the routing protocol by which the route was learned.</p>

ipRouteMask	IpAddress	RW	<p>The mask to be logical-ANDed with the destination address before being compared to the value in the ipRouteDest field. For those systems that do not support arbitrary subnet masks, an agent constructs the value of the ipRouteMask by determining whether the value of the correspondent ipRouteDest field belong to a class-A, B, or C network, and then using one of:</p> <table><tr><td>Mask</td><td>Network</td></tr><tr><td>255.0.0.0</td><td>class-A</td></tr><tr><td>255.255.0.0</td><td>class-B</td></tr><tr><td>255.255.255.0</td><td>class-C</td></tr></table> <p>If the value of the ipRouteDest is 0.0.0.0 (a default route), the mask value is also 0.0.0.0. It should be noted that all IP routing subsystems implicitly use this mechanism.</p>	Mask	Network	255.0.0.0	class-A	255.255.0.0	class-B	255.255.255.0	class-C
Mask	Network										
255.0.0.0	class-A										
255.255.0.0	class-B										
255.255.255.0	class-C										
ipRouteMetric5	INTEGER	RW	<p>An alternate routing metric for this route. The semantics of this metric are determined by the routing protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.</p>								
ipRouteInfo	OBJECT IDENTIFIER	R	<p>A reference to MIB definitions specific to the particular routing protocol which is responsible for this route, as determined by the value specified in the route's ipRouteProto value. If this information is not present, its value should be set to the OBJECT IDENTIFIER { 0 0 }, which is a syntactically valid object identifier, and any conforming implementation of ASN.1 and BER must be able to generate and recognize this value.</p>								

IP Address Translation Table

The IP address translation table contains the IpAddress to physical address equivalences. Some interfaces do not use translation tables for determining address equivalences (for example, DDN-X.25 has an algorithmic method); if all interfaces are of this type, the address translation table is empty, that is, has zero entries.

MIB-2 Object Name	Type	Access	Description
ipNetToMediaIfIndex	INTEGER	RW	The interface on which this entry's equivalence is effective. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.
ipNetToMediaPhysAddress	PhysAddress	RW	The media-dependent "physical" address.
ipNetToMediaNetAddress	IpAddress	RW	The IpAddress corresponding to the media-dependent "physical" address
ipNetToMediaType	INTEGER	RW	<p>The type of mapping. Setting this object to the value invalid(2) has the effect of invalidating the corresponding entry in the ipNetToMediaTable. That is, it effectively disassociates the interface identified with said entry from the mapping identified with said entry. It is an implementation-specific matter as to whether the agent removes an invalidated entry from the table. Accordingly, management stations must be prepared to receive tabular information from agents that corresponds to entries not currently in use. Proper interpretation of such entries requires examination of the relevant ipNetToMediaType object.</p> <p>Values:</p> <ul style="list-style-type: none"> other(1), - none of the following invalid(2), - an invalidated mapping dynamic(3), static(4)

Additional IP Objects

MIB-2 Object Name	Type	Access	Description
ipRoutingDiscards	Counter	R	The number of routing entries which were chosen to be discarded even though they are valid. One possible reason for discarding such an entry could be to free up buffer space for other routing entries.

ICMP Group

MIB-2 Object Name	Type	Access	Description
icmplnMsgs	Counter	R	The total number of ICMP messages which the entity received. Note that this counter includes all those counted by ICMP In Errors.
icmplnErrors	Counter	R	The number of ICMP messages which the entity received but determined as having ICMP-specific errors (bad ICMP checksums, bad length, and so forth).
icmplnDestUnreachs	Counter	R	The number of ICMP Destination Unreachable messages received.
icmplnTimeExcds	Counter	R	The number of ICMP Time Exceeded messages received.
icmplnParmProbs	Counter	R	The number of ICMP Parameter Problem messages received.
icmplnSrcQuenchs	Counter	R	The number of ICMP Source Quench messages received.
icmplnRedirects	Counter	R	The number of ICMP Redirect messages received.
icmplnEchos	Counter	R	The number of ICMP Echo (request) messages received.
icmplnEchoReps	Counter	R	The number of ICMP Echo Reply messages received.
icmplnTimestamps	Counter	R	The number of ICMP Timestamp (request) messages received.

icmpInTimestampReps	Counter	R	The number of ICMP Timestamp Reply messages received.
icmpInAddrMasks	Counter	R	The number of ICMP Address Mask Request messages received.
icmpInAddrMaskReps	Counter	R	The number of ICMP Address Mask Reply messages received.
icmpOutMsgs	Counter	R	The total number of ICMP messages which this entity attempted to send. Note that this counter includes all those counted by icmpOutErrors.
icmpOutErrors	Counter	R	The number of ICMP messages which this entity did not send due to problems discovered within ICMP, such as a lack of buffers. This value should not include errors discovered outside the ICMP layer, such as the inability of IP to route the resultant datagram. In some implementations there may be no types of error which contribute to this counter's value.
icmpOutDestUnreachs	Counter	R	The number of ICMP Destination Unreachable messages sent.
icmpOutTimeExcds	Counter	R	The number of ICMP Time Exceeded messages sent.
icmpOutParmProbs	Counter	R	The number of ICMP Parameter Problem messages sent.
icmpOutSrcQuenchs	Counter	R	The number of ICMP Source Quench messages sent.
icmpOutRedirects	Counter	R	The number of ICMP Redirect messages sent. For a host, this object will always be zero, because hosts do not send redirects.
icmpOutEchos	Counter	R	The number of ICMP Echo (request) messages sent.
icmpOutEchoReps	Counter	R	The number of ICMP Echo Reply messages sent.
icmpOutTimestamps	Counter	R	The number of ICMP Timestamp (request) messages sent.

icmpOutTimestampReps	Counter	R	The number of ICMP Timestamp Reply messages sent.
icmpOutAddrMasks	Counter	R	The number of ICMP Address Mask Request messages sent.
icmpOutAddrMaskReps	Counter	R	The number of ICMP Address Mask Reply messages sent.

TCP Group

Note that instances of object types that represent information about a particular TCP connection are transient; they persist only as long as the connection in question persists.

MIB-2 Object Name	Type	Access	Description
tcpRtoAlgorithm	INTEGER	R	The algorithm used to determine the timeout value used for retransmitting unacknowledged octets. Values: other(1), - none of the following constant(2), - a constant rto rsre(3), - MIL-STD-1778, Appendix B vanj(4) - Van Jacobson's algorithm [10]
tcpRtoMin	INTEGER	R	The minimum value permitted by a TCP implementation for the retransmission timeout, measured in milliseconds. More refined semantics for objects of this type depend upon the algorithm used to determine the retransmission timeout. In particular, when the timeout algorithm is rsre(3), an object of this type has the semantics of the LBOUND quantity described in RFC 793.

tcpRtoMax	INTEGER	R	The maximum value permitted by a TCP implementation for the retransmission timeout, measured in milliseconds. More refined semantics for objects of this type depend upon the algorithm used to determine the retransmission timeout. In particular, when the timeout algorithm is rsre(3), an object of this type has the semantics of the UBOUND quantity described in RFC 793.
tcpMaxConn	INTEGER	R	The limit on the total number of TCP connections the entity can support. In entities where the maximum number of connections is dynamic, this object should contain the value -1.
tcpActiveOpens	Counter	R	The number of times TCP connections have made a direct transition to the SYN-SENT state from the CLOSED state.
tcpPassiveOpens	Counter	R	The number of times TCP connections have made a direct transition to the SYN-RCVD state from the LISTEN state.
tcpAttemptFails	Counter	R	The number of times TCP connections have made a direct transition to the CLOSED state from either the SYN-SENT state or the SYN-RCVD state, plus the number of times TCP connections have made a direct transition to the LISTEN state from the SYN-RCVD state.
tcpEstabResets	Counter	R	The number of times TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED state or the CLOSE-WAIT state.
tcpCurrEstab	Gauge	R	The number of TCP connections for which the current state is either ESTABLISHED or CLOSE-WAIT.

tcpInSegs	Counter	R	The total number of segments received, including those received in error. This count includes segments received on currently established connections.
tcpOutSegs	Counter	R	The total number of segments sent, including those on current connections, but excluding those containing only retransmitted octets.
tcpRetransSegs	Counter	R	The total number of segments retransmitted; That is, the number of TCP segments transmitted containing one or more previously transmitted octets.

TCP Connection Table

The TCP connection table contains information about this entity's existing TCP connections.

MIB-2 Object Name	Type	Access	Description
tcpConnState	INTEGER	RW	<p>The state of this TCP connection. The only value which may be set by a management station is deleteTCB(12). Accordingly, it is appropriate for an agent to return a "badValue" response if a management station attempts to set this object to any other value. If a management station sets this object to the value deleteTCB(12), this has the effect of deleting the TCB (as defined in RFC 793) of the corresponding connection on the managed node, resulting in immediate termination of the connection. As an implementation-specific option, an RST segment may be sent from the managed node to the other TCP endpoint (note, however, that RST segments are not sent reliably).</p> <p>Values:</p> <ul style="list-style-type: none"> closed(1), listen(2), synSent(3), synReceived(4), established(5), finWait1(6), finWait2(7), closeWait(8), lastAck(9), closing(10), timeWait(11), deleteTCB(12)
tcpConnLocalAddress	IpAddress	R	<p>The local IP address for this TCP connection. In the case of a connection in the listen state which is willing to accept connections for any IP interface associated with the node, the value 0.0.0.0 is used.</p>

tcpConnLocalPort	INTEGER (0..65535)	R	The local port number for this TCP connection.
tcpConnRemAddress	IpAddress	R	The remote IP address for this TCP connection.
tcpConnRemPort	INTEGER (0..65535)	R	The remote port number for this TCP connection.

Additional TCP Objects

MIB-2 Object Name	Type	Access	Description
tcpInErrs	Counter	R	The total number of segments received in error (for example, bad TCP checksums).
tcpOutRsts	Counter	R	The number of TCP segments sent containing the RST flag.

UDP Group

MIB-2 Object Name	Type	Access	Description
udpInDatagrams	Counter	R	The total number of UDP datagrams delivered to UDP users.
udpNoPorts	Counter	R	The total number of received UDP datagrams for which there was no application at the destination port.
udpInErrors	Counter	R	The number of received UDP datagrams that could not be delivered for reasons other than the lack of an application at the destination port.
udpOutDatagrams	Counter	R	The total number of UDP datagrams sent from this entity.

UDP Listener Table

The UDP listener table contains information about this entity's UDP end-points on which a local application is currently accepting datagrams.

MIB-2 Object Name	Type	Access	Description
udpLocalAddress	IpAddress	R	The local IP address for this UDP listener. In the case of a UDP listener which is willing to accept datagrams for any IP interface associated with the node, the value 0.0.0.0 is used.
udpLocalPort	INTEGER (0..65535)	R	The local port number for this UDP listener.

SNMP Group

Some of the objects defined below will be zero-valued in those SNMP implementations that are optimized to support only those functions specific to either a management agent or a management station. In particular, it should be observed that the objects below refer to an SNMP entity, and there may be several SNMP entities residing on a managed node (for example, if the node is acting as a management station).

MIB-2 Object Name	Type	Access	Description
snmplnPks	Counter	R	The total number of SNMP Messages delivered to the SNMP entity from the transport service.
snmpOutPks	Counter	R	The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.
snmplnBadVersions	Counter	R	The total number of SNMP Messages which were delivered to the SNMP protocol entity and were for an unsupported SNMP version.
snmplnBadCommunityNames	Counter	R	The total number of SNMP Messages delivered to the SNMP protocol entity which used a SNMP community name not known to said entity.
snmplnBadCommunityUses	Counter	R	The total number of SNMP Messages delivered to the SNMP protocol entity which represented an SNMP operation which was not allowed by the SNMP community named in the Message.

snmplnASNParseErrs	Counter	R	The total number of ASN.1 or BER errors encountered by the SNMP protocol entity when decoding received SNMP Messages.
snmplnTooBigs	Counter	R	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is "tooBig".
snmplnNoSuchNames	Counter	R	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is "noSuchName".
snmplnBadValues	Counter	R	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is "badValue".
snmplnReadOnly	Counter	R	The total number valid SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is "readOnly". It should be noted that it is a protocol error to generate an SNMP PDU which contains the value "readOnly" in the error-status field: as such, this object is provided as a means of detecting incorrect implementations of the SNMP.
snmplnGenErrs	Counter	R	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is "genErr."
snmplnTotalReqVars	Counter	R	The total number of MIB objects which have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.
snmplnTotalSetVars	Counter	R	The total number of MIB objects which have been altered successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.
snmplnGetRequests	Counter	R	The total number of SNMP Get-Request PDUs which have been accepted and processed by the SNMP protocol entity.

snmplnGetNexts	Counter	R	The total number of SNMP Get-Next PDUs which have been accepted and processed by the SNMP protocol entity.
snmplnSetRequests	Counter	R	The total number of SNMP Set-Request PDUs which have been accepted and processed by the SNMP protocol entity.
snmplnGetResponses	Counter	R	The total number of SNMP Get-Response PDUs which have been accepted and processed by the SNMP protocol entity.
snmplnTraps	Counter	R	The total number of SNMP Trap PDUs which have been accepted and processed by the SNMP protocol entity.
snmpOutTooBig	Counter	R	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is "tooBig".
snmpOutNoSuchNames	Counter	R	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status is "noSuchName".
snmpOutBadValues	Counter	R	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is "badValue".
snmpOutGenErrs	Counter	R	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is "genErr."
snmpOutGetRequests	Counter	R	The total number of SNMP Get-Request PDUs which have been generated by the SNMP protocol entity.
snmpOutGetNexts	Counter	R	The total number of SNMP Get-Next PDUs which have been generated by the SNMP protocol entity.
snmpOutSetRequests	Counter	R	The total number of SNMP Set-Request PDUs which have been generated by the SNMP protocol entity.

snmpOutGetResponses	Counter	R	The total number of SNMP Get-Response PDUs which have been generated by the SNMP protocol entity.
snmpOutTraps	Counter	R	The total number of SNMP Trap PDUs which have been generated by the SNMP protocol entity.
snmpEnableAuthenTraps	INTEGER	RW	<p>Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information; as such, it provides a means whereby all authentication-failure traps may be disabled. Note that it is strongly recommended that this object be stored in non-volatile memory so that it remains constant between re-initializations of the network management system.</p> <p>Values: enabled(1), disabled(2)</p>

Fabric Element Management MIB

There are five groups of objects defined in the Fabric Element Management MIB.

Fabric Element Management MIB Tables

Type	Syntax	Description
DisplayString	OCTET STRING	
MilliSeconds	INTEGER (0..2147383647)	$2^{31} - 1$
MicroSeconds	INTEGER (0..2147383647)	
FcNameId	OCTET STRING (SIZE(8))	World Wide Name or Fibre Channel Name associated with an FC entity. This is a Network_Destination_ID or Network_Source_ID composed of a value up to 60 bits wide, occupying the remaining 8 bytes, while the first nibble identifies the format of the Name_Identifier with hex values: 0: ignored, 1: IEEE 48-bit address, 2: IEEE extended, 3: Locally assigned, 4: 32-bit IP address.

FabricName	FcNameId	The Name Identifier of a Fabric. Each Fabric shall provide a unique Fabric Name. Only the following formats are allowed: IEEE48, and Local.
FcPortName	FcNameId	The Name Identifier associated with a port. Only the following formats are allowed: IEEE48, IEEE extended, and Local.
FcAddressId	OCTET STRING (SIZE (3))	Fibre Channel Address Identifier. A 24-bit value unique within the address space of a Fabric.
FcRxDataFieldSize	INTEGER (128..2112)	Receive Data_Field Size.
FcBbCredit	INTEGER (0..32767)	Buffer-to-buffer Credit.
FcphVersion	INTEGER (0..255)	
FcStackedConnMode	INTEGER	The values are defined as follows: none(1), transparent(2), lockedDown(3).
FcCosCap	INTEGER (0..127)	bit 0 – Class F, bit 1 – Class 1, bit 2 – Class 2, bit 3 – Class 3, bit 4 – Class 4, bit 5 – Class 5, bit 6 – Class 6, bit 7 – reserved for future.
FcOBaudRate	INTEGER	The values are defined as follows: other(1) – none of below, oneEighth(2) – 155 Mbaud (12.5MB/s), quarter(4) – 266 Mbaud (25.0MB/s), half(8) – 532 Mbaud (50.0MB/s), full(16) – 1 Gbaud (100MB/s), double(32) – 2 Gbaud (200MB/s), quadruple(64) – 4 Gbaud (400MB/s).
FcOBaudRateCap	INTEGER (0..127)	bit 0 – other, bit 1 – oneEighth, bit 2 – quarter, bit 3 – half, bit 4 – full, bit 5 – double, bit 6 – quadruple, bit 7 – reserved for future.
FcOMediaCap	INTEGER (0..65535)	bit 0 – unknown, bit 1 – single mode fibre (sm), bit 2 – multi-mode fibre 50 micron (m5), bit 3 – multi-mode fibre 62.5 micron (m6), bit 4 – video cable (tv), bit 5 – miniature cable (mi), bit 6 – shielded twisted pair (stp), bit 7 – twisted wire (tw), bit 8 – long video (lv), bits 9-15 – reserved for future use.
FcOMedium	INTEGER	The values are defined as follows: unknown(1), sm(2), m5(4), m6(8), tv(16), mi(32), stp(64), tw(128), lv(256).

FcOTxType	INTEGER	The values are defined as follows: unknown(1), longWaveLaser(2) – (LL), shortWaveLaser(3) – (SL), longWaveLED(4) – (LE), electrical(5) – (EL), shortWaveLaser-noOFC(6) – (SN).
FcODistance	INTEGER	The values are defined as follows: unknown(1), long(2), intermediate(3), short(4).
FcFeModuleCapacity	INTEGER (1..256)	
FcFeFxPortCapacity	INTEGER (1..256)	
FcFeModuleIndex	INTEGER (1..256)	
FcFeFxPortIndex	INTEGER (1..256)	
FcFeNxPortIndex	INTEGER (1..126)	
FcFxPortMode	INTEGER	The values are defined as follows: unknown(1), fPort(2), flPort(3).
FcBbCreditModel	INTEGER	The values are defined as follows: regular(1), alternate(2).

MIB objects defined in the Fabric Element MIB

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFabricName	FabricName	PCP	R	The Name_Identifier of the Fabric to which this Fabric Element belongs.
FcElementName	FcNameId	PCP	R	The Name_Identifier of the Fabric Element.
FcFeModuleCapacity	FcFeModuleCapacity	SNMP	R	The maximum number of modules in the Fabric Element, regardless of their current state.

Module Table

A table that contains one entry for each module in the Fabric Element.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFeModuleDescr	DisplayString (SIZE(256))	McKDEV_TBL	R	<p>A textual description of the module. This value should include the full name and version identification of the module. It should contain printable ASCII characters.</p> <p>This string should be derived from VPD information stored in the FRU EEPROM.</p>
FcFeModuleObjectID	OBJECT IDENTIFIER	SNMP	R	A fixed object identifier assigned from the HP enterprise subtree (1.3.6.1.4.1.289.2.1.1.2).
fcFeModuleOperStatus	INTEGER	SNMP	R	<p>Indicates the operational status of the module: online(1) – the module is functioning properly; offline(2) – the module is not available; testing(3) – the module is under testing; and faulty(4) – the module is defective in some way.</p> <p>The status is evaluated from fcFPortPhysOperStatus in the following order.</p> <p>Testing(3): the module is under testing if all four ports on the current module are testing;</p> <p>faulty(4): the module is defective if any of the ports on the current module is faulty;</p> <p>Online(1): the module is functioning properly if any of the ports on the current module is online or testing;</p> <p>offline(2): the module is not available if any of the ports on the current module is offline.</p>

FcFeModuleLastChange	TIMETICKS	SNMP	R	<p>This object contains the value of the sysUpTime when the module entered its current operational status. A value of zero indicates that the operational status of the module has not changed since the agent last restarted.</p> <p>This is SS_TIM_RD_TICKS(MILLISEC) * 10.</p>
fcFeModuleFxPortCapacity	FcFeFxPortCapacity	AS	R	<p>The number of Fx_Ports that can be contained within the module. Within each module, the ports are uniquely numbered in the range from 1 to fcFeModuleFx_PortCapacity inclusive. However, the numbers are not required to be contiguous.</p> <p>This is AS_glob.prod_cnfg_ptr->ports_per_module.</p>
fcFeModuleName	FcNameId	PCP	R	<p>The Name_Identifier of the module.</p> <p>This is the port module World Wide Name.</p>

Fx_Port Configuration Table

A table that contains one entry for each Fx_Port in the Fabric Element, and configuration and service parameters of the Fx_Ports.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxConfFxPortIndex	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized. This number ranges from 1 to AS_glob.prod_cnfg_ptr->ports_per_module.
FcFxPortName	FcPortName	PCP	R	Name identifier of this Fx_Port. Each Fx_Port has a unique port name within the address space of the Fabric. This is the WWN assigned to the port.
FcFxPortFcphVersionHigh	FcphVersion	FC2	R	Highest or most recent version of FC-PH that the Fx_Port is configured to support. Since the switch is not capable of changing its support for FC-PH version, the version reported is the one currently in use for this port. If there is no device logged in, the value is 0. If a device is logged in, the values reported are: 6 = FC-PH 4.0 7 = FC-PH 4.1 8 = FC-PH 4.2 9 = FC-PH 4.3 0x10 = FC-PH2 0x20 = FC-PH3

FcFxPortFcphVersionLow	FcphVersion	FC2	R	Lowest or earliest version of FC-PH that the Fx_Port is configured to support. Since the switch is not capable of changing its support for FC-PH version, the version reported is the one currently in use for this port. If there is no device logged in, the value is 0. For values see "FcFxPortFcphVersionHigh" on page 68.
FcFxPortBbCredit	FcBbCredit	PCP	R	The total number of receive buffers available for holding Class 1 connect-request, Class 2, or 3 frames from the attached NxPort. It is for buffer-to-buffer flow control in the direction from the attached NxPort (if applicable) to Fport.
FcFxPortRxBufSize	FcRxDataFieldSize	LOGIN SERVER	R	The largest Data_Field Size (in octets) for an FT_1 frame that can be received by the Fx_Port. This is fixed at 2112.
FcFxPortRatov	MilliSeconds	PCP	R	The Resource_Allocation_Timeout Value configured for the Fx_Port. This is used as the timeout value for determining when to reuse an NxPort resource such as a Recovery_Qualifier. It represents E_D_TOV (see next object) plus twice the maximum time that a frame may be delayed within the Fabric and still be delivered.
FcFxPortEdtov	MilliSeconds	PCP	R	The E_D_TOV value configured for the Fx_Port. The Error_Detect_Timeout Value is used as the timeout value for detecting an error condition.
FcFxPortCosSupported	FcCosCap	SNMP	R	A value indicating the set of Classes of Service supported by the Fx_Port. This is fixed at CLASS_2 CLASS_3 (0x0C).

fcFxPortIntermixSupported	INTEGER	SNMP	R	<p>A flag indicating whether the Fx_Port supports an Inter-mixed Dedicated Connection. The values are defined as follows: yes(1) and no(2).</p> <p>This is fixed at no(2).</p>
FcFxPortStackedConnMode	FcStackedConnMode	SNMP	R	<p>A value indicating the mode of Stacked Connect supported by the Fx_Port.</p> <p>This is fixed at none(1).</p>
FcFxPortClass2SeqDeliv	INTEGER	SNMP	R	<p>A flag indicating whether Class 2 Sequential Delivery is supported by the Fx_Port. The values are defined as follows: yes(1) and no(2).</p> <p>This is fixed at yes(1).</p>
FcFxPortClass3SeqDeliv	INTEGER	SNMP	R	<p>A flag indicating whether Class 3 Sequential Delivery is supported by the Fx_Port. The values are defined as follows: yes(1) and no(2).</p> <p>This is fixed at yes(1).</p>
FcFxPortHoldTime	MicroSeconds	PCP	R	<p>The maximum time (in microseconds) that the Fx_Port shall hold a frame before discarding it if it is unable to deliver the frame. The value 0 means that the Fx_Port does not support this parameter.</p> <p>This is equal to quarter of E_D_TOV which is obtained from PCP.</p>
FcFxPortBaudRate	FcOBaudRate	FPM	R	<p>The FC-0 baud rate of the Fx_Port.</p> <p>One of these values, or no value will be returned.</p> <p>0x10, 1 Gbaud (100 MB/s) 0x20, 2 Gbaud (200 MB/s) 0x40 4 Gbaud (400 MB/s)</p>

FcFxPortMedium	FcOMedium	FPM	R	<p>The FC-0 medium of the Fx_Port.</p> <p>The value is a bitwise OR of these values:</p> <p>0x02, Single Mode fiber</p> <p>0x04, Multi-mode fiber 50 micron</p> <p>0x08, Multi-mode fiber 62.5 micron</p> <p>Or it will be unknown (0x01) if no information is available.</p>
FcFxPortTxType	FcOTxType	FPM	R	<p>The FC-0 transmitter type of the Fx_Port.</p> <p>1, unknown (long distance laser)</p> <p>2, LongwaveLaser (LC version)</p> <p>3, ShortwaveLaser</p> <p>6 ShortwaveLaser-no OFC</p>
FcFxPortDistance	FcODistance	FPM	R	<p>The FC-0 distance range of the Fx_Port transmitter.</p> <p>1, Unknown</p> <p>2, Long</p> <p>3, Intermediate</p> <p>4 Short</p>

Fx_Port Operation Table

A table that contains one entry for each Fx_Port in the Fabric Element, operational status, and parameters of the Fx_Ports.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxPortOperFxPortIndex	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxPortID	FcAddressId	Login Server	R	The address identifier by which this Fx_Port is identified within the Fabric. The Fx_Port may assign its address identifier to its attached NxPort(s) during Fabric Login. Returns a port id if the port is logged into the fabric, otherwise this address is 000000 in FCEOS.
fcFPortAttachedPortName	FcPortName	Login Server	R	The port name of the attached N_Port, if applicable. If the value of this object is '0000000000000000'H, this F_Port has no NxPort attached to it. This variable has been deprecated and may be implemented for backward compatibility. Not supported for NL ports.
FcFPortConnectedPort	FcAddressId	SNMP	R	The address identifier of the destination Fx_Port with which this Fx_Port is currently engaged in a either a Class 1 or loop connection. If the value of this object is '000000'H, this Fx_Port is not engaged in a class 1 connection. This variable has been deprecated and may be implemented for backward compatibility. This address is fixed at 0x000000.

FcFxPortBbCredit Available	Gauge	PSCC	R	The number of buffers currently available for receiving frames from the attached port in the buffer-to-buffer flow control. The value should be less than or equal to fcFx_PortBbCredit.
FcFxPortOperMode	FcFxPortMode	AS	R	The current operational mode of the Fx_Port. This value is fport(2) if the port_state_data is unavailable or the port is a fport, or unknown(1) for the other port state.
FcFxPortAdminMode	FcFxPortMode	AS	R	The desired operational mode of the Fx_Port. This value is fport(2) if the port_state_data is unavailable or the port is a fport, or unknown(1) for the other port state.

Fx_Port Physical Level Table

A table that contains one entry for each Fx_Port in the Fabric Element, physical level status and parameters of the Fx_Port.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxPortPhysFxPort Index	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxPortPhysAdminStatus	INTEGER	PCP, FPM	R/W	The desired state of the Fx_Port. A management station may place the Fx_Port in a desired state by setting this object accordingly. The testing(3) state indicates that no operational frames can be passed. When a Fabric Element initializes, all Fx_Port start with fcFx_PortPhysAdminStatus in the offline(2) state. As the result of either explicit management action or per configuration information accessible by the Fabric Element, fcFx_PortPhysAdminStatus is then changed to either the online(1) or testing(3) states, or remains in the offline state. The values are defined as follows: online(1) – place port online, offline(2) – take port offline, testing (3). If the port cannot be set to testing because it is inactive or in a failed state, the return value will be resource_unavailable(13).

FcFxPortPhysOperStatus	INTEGER	FPM, SNMP	R	<p>The current operational status of the Fx_Port. The value testing(3) indicates that no operational frames can be passed. If fcFx_PortPhysAdminStatus is offline(2), fcFx_PortPhysOperStatus should be offline(2). If fcFx_PortPhysAdminStatus is changed to online(1), fcFx_PortPhysOperStatus should change to online(1) if the Fx_Port is ready to accept Fabric Login request from the attached NxPort. It should proceed and remain in the link-failure(4) state if and only if there is a fault that prevents it from going to the online(1) state. The values are defined as follows: online(1) – Login may proceed, offline(2) – Login cannot proceed, testing(3) – port is under test, link-failure(4) – failure after online/testing.</p> <p>See "Port State Descriptions" on page 145.</p>
FcFxPortPhysLastChange	TimeTicks	SNMP	R	<p>The value of sysUpTime at the time the Fx_Port entered its current operational status. A value of zero indicates that the Fx_Port's operational status has not changed since the agent last restarted. This is SS_TIM_RD_TICKS(MILLISEC) * 10.</p>
FcFxPortPhysRttov	MilliSeconds	SNMP	R	<p>The Receiver_Transmitter_Timeout value of the Fx_Port. This is used by the receiver logic to detect Loss of Synchronization.</p> <p>This value is fixed at 100ms.</p>

Fx_Port Fabric Login Table

An entry containing service parameters established from a successful Fabric Login.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxlabellogiFxPort Index	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxlabellogiNxPort Index	FcFeNxPortIndex	SNMP	R	Identifies the associated NxPort in the attachment for which the entry contains information.
FcFxlabelPortFcph VersionAgreed	FcphVersion	Login Server	R	The version of FC-PH that the Fx_Port has agreed to support from the Fabric Login.
FcFxlabelPortNxPortBbCredit	FcBbCredit	Login Server	R	The total number of buffers available for holding Class 1 connect-request, Class 2, or Class 3 frames to be transmitted to the attached NxPort. It is for buffer-to-buffer flow control in the direction from Fx_Port to NxPort. The buffer-to-buffer flow control mechanism is indicated in the respective fcFxlabelPortBbCreditModel.
FcFxlabelPortNxPortRxDataField Size	FcRxDataField Size	Login Server	R	The Receive Data Field Size of the attached NxPort. This is a binary value that specifies the largest Data Field Size for an FT_1 frame that can be received by the NxPort. The value is in number of bytes and ranges from 128 to 2112 inclusive.
FcFxlabelPortCosSuppAgreed	FcCosCap	Login Server	R	A variable indicating that the attached NxPort has requested the Fx_Port for the support of classes of services and the Fx_Port has granted the request.

FcFxPortInter mixSuppAgre ed	INTEGER	SNMP	R	A variable indicating that the attached NxPort has requested the Fx_Port for the support of Intermix and the Fx_Port has granted the request. This flag is valid only if Class 1 service is supported. The values are defined as follows: yes(1) and no(2). This is always no(2).
FcFxPortStack edConnMode Agreed	FcStackedCon nMode	SNMP	R	A variable indicating whether the Fx_Port has agreed to support stacked connect from the Fabric Login. This is only meaningful if Class 1 service has been agreed on. This is always none(1).
FcFxPortClass 2SeqDelivAgr eed	INTEGER	Login Server	R	A variable indicating whether the Fx_Port has agreed to support Class 2 sequential delivery from the Fabric Login. This is only meaningful if Class 2 service has been agreed. The values are defined as follows: yes(1) and no(2).
FcFxPortClass 3SeqDelivAgr eed	INTEGER	Login Server	R	A flag indicating whether the Fx_Port has agreed to support Class 3 sequential delivery from the Fabric Login. This is only meaningful if Class 3 service has been agreed. The values are defined as follows: yes(1) and no(2).

FcFxPortNxPortName	FcPortName	Login Server	R	The port name of the attached NxPort, if applicable. If the value of this object is '0000000000000000'H, this Fx_Port has no NxPort attached to it. This is the World Wide Name of the attached to NxPort. It is the same as fcFPortAttachedPortName.
FcFxPortConnectedNxPort	FcAddressId	SNMP	R	The address identifier of the destination Fx_Port with which this Fx_Port is currently engaged in a either a Class 1 or loop connection. If the value of this object is '000000'H, this Fx_Port is not engaged in a connection. This is fixed at '000000'H.
fcFxPortBbCreditModel	FcBbCreditModel	SNMP	R	Identifies the BB_Credit model used by the Fx_Port. The regular model refers to the Buffer-to-Buffer flow control mechanism defined in FC-PH [1] is used between the F_Port and the N_Port. For FL_Ports, the Alternate Buffer-to-Buffer flow control mechanism as defined in FC-AL [4] is used between the FL_Port and any attached NL_Ports. This is fixed at regular(1).

Fx_Port Error Table

A table that contains one entry for each Fx_Port, counters that record the numbers of errors detected.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxPortErrorFxPortIndex	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxPortLinkFailures	Counter	PSCC	R	The number of link failures detected by this Fx_Port.
FcFxPortSyncLosses	Counter	PSCC	R	The number of losses of synchronization detected by the Fx_Port.

FcFxPortSigLosses	Counter	PSCC	R	The number of losses of signal detected by the Fx_Port.
FcFxPortPrimSeqProtoErrors	Counter	PSCC	R	The number of primitive sequence protocol errors detected by the Fx_Port.
FcFxPortInvalidTxWords	Counter	PSCC	R	The number of invalid transmission words detected by the Fx_Port.
FcFxPortInvalidCrcs	Counter	PSCC	R	The number of invalid CRCs detected by the Fx_Port.
FcFxPortDelimiterErrors	Counter	PSCC	R	The number of Delimiter Errors detected by this Fx_Port.
FcFxPortAddressIdErrors	Counter	PSCC	R	The number of address identifier errors detected by this Fx_Port.
FcFxPortLinkResetIns	Counter	PSCC	R	The number of Link Reset Protocols received by this Fx_Port from the attached NxPort.
FcFxPortLinkResetOuts	Counter	PSCC	R	The number of Link Reset Protocols issued by this Fx_Port to the attached NxPort.
FcFxPortOlsIns	Counter	PSCC	R	The number of Offline Sequences received by this Fx_Port.
FcFxPortOlsOuts	Counter	PSCC	R	The number of Offline Sequences issued by this Fx_Port.

Class 1 Accounting Table

A table that contains one entry for each Fx_Port in the Fabric Element, Class 1 accounting information. These entries are all zero, because class 1 is not supported.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxPortC1ActFxPortIndex	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxPortC1InConnections	Counter	SNMP	R	The number of Class 1 connections successfully established in which the attached NxPort is the source of the connect-request. This value is fixed at 0.
FcFxPortC1OutputConnections	Counter	SNMP	R	The number of Class 1 connections successfully established in which the attached NxPort is the destination of the connect-request. This value is fixed at 0.
FcFxPortC1FbsyFrames	Counter	SNMP	R	The number of F_BSY frames generated by this Fx_Port against Class 1 connect-request. This value is fixed at 0.
FcFxPortC1FrjtFrames	Counter	SNMP	R	The number of F_RJT frames generated by this Fx_Port against Class 1 connect-request. This value is fixed at 0.
FcFxPortC1ConnTime	Counter	SNMP	R	The cumulative time that this Fx_Port has been engaged in Class 1 connection. The amount of time of each connection is counted in octets from after a connect-request has been accepted until the connection is disengaged, either by an EOFdt or Link Reset. This value is fixed at 0.
FcFxPortC1InFrames	Counter	SNMP	R	The number of Class 1 frames (other than Class 1 connect-request) received by this Fx_Port from its attached NxPort. This value is fixed at 0.

FcFxPortC1OutFrames	Counter	SNMP	R	The number of Class 1 frames (other than Class 1 connect-request) delivered through this Fx_Port to its attached NxPort. This value is fixed at 0.
FcFxPortC1InOctets	Counter	SNMP	R	The number of Class 1 frame octets, including the frame delimiters, received by this Fx_Port from its attached NxPort. This value is fixed at 0.
FcFxPortC1OutOctets	Counter	SNMP	R	The number of Class 1 frame octets, including the frame delimiters, delivered through this Fx_Port its attached NxPort. This value is fixed at 0.
FcFxPortC1Discards	Counter	SNMP	R	The number of Class 1 frames discarded by this Fx_Port. This value is fixed at 0.

Class 2 Accounting Table

A table that contains one entry for each Fx_Port in the Fabric Element, Class 2 accounting information recorded since the management agent has re-initialized.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxPortC2ActFxPortIndex	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxPortC2InFrames	Counter	PSCC	R	The number of Class 2 frames received by this Fx_Port from its attached NxPort.
FcFxPortC2OutFrames	Counter	PSCC	R	The number of Class 2 frames delivered through this Fx_Port to its attached NxPort.
FcFxPortC2InOctets	Counter	PSCC	R	The number of Class 2 frame octets, including the frame delimiters, received by this Fx_Port from its attached NxPort.
FcFxPortC2OutOctets	Counter	PSCC	R	The number of Class 2 frame octets, including the frame delimiters, delivered through this Fx_Port to its attached NxPort.

FcFxPortC2Discards	Counter	SNMP	R	The number of Class 2 frames discarded by this Fx_Port. This value is not supported. It is always zero.
FcFxPortC2FbsyFrames	Counter	PSCC	R	The number of F_BSY frames generated by this Fx_Port against Class 2 frames.
FcFxPortC2Frjiframes	Counter	PSCC	R	The number of F_RJT frames generated by this Fx_Port against Class 2 frames.

Class 3 Accounting Table

A table that contains one entry for each Fx_Port in the Fabric Element, Class 3 accounting information recorded since the management agent has re-initialized.

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxPortC3ActFxPortIndex	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxPortC3InFrames	Counter	PSCC	R	The number of Class 3 frames received by this Fx_Port from its attached NxPort.
FcFxPortC3OutputFrames	Counter	PSCC	R	The number of Class 3 frames delivered through this Fx_Port to its attached NxPort.
FcFxPortC3InOctets	Counter	PSCC	R	The number of Class 3 frame octets, including the frame delimiters, received by this Fx_Port from its attached NxPort.
FcFxPortC3OutputOctets	Counter	PSCC	R	The number of Class 3 frame octets, including the frame delimiters, delivered through this Fx_Port to its attached NxPort.
FcFxPortC3Discards	Counter	PSCC	R	The number of Class 3 frames discarded by this Fx_Port.

Fx_Port Capability Table

A table that contains one entry for each Fx_Port, the capabilities of the port within the Fabric Element

Fabric Element MIB Object Name	Type	Provided By	Access	Description
fcFxPortCapF xPortIndex	FcFeFxPortIndex	SNMP	R	Identifies the Fx_Port within the module. This number ranges from 1 to the value of fcFeModulePortCapacity for the associated module. The value remains constant for the identified Fx_Port until the module is re-initialized.
FcFxPortCapF cphVersionHigh	FcphVersion	FC2	R	The highest or most recent version of FC-PH that the Fx_Port is capable of supporting. For values see " FcFxPortFcphVersionHigh " on page 68.
FcFxPortCapF cphVersionLow	FcphVersion	FC2	R	The lowest or earliest version of FC-PH that the Fx_Port is capable of supporting. For values see " FcFxPortFcphVersionHigh " on page 68.
FcFxPortCapB bCreditMax	FcBbCredit	SNMP	R	The maximum number of receive buffers available for holding Class 1 connect-request, Class 2, or Class 3 frames from the attached NxPort. This value is fixed at 16.
FcFxPortCapB bCreditMin	FcBbCredit	SNMP	R	The minimum number of receive buffers available for holding Class 1 connect-request, Class 2, or Class 3 frames from the attached NxPort. This value is fixed at 1.
FcFxPortCapR xDataFieldSizeMax	FcRxDataFieldSize	SNMP	R	The maximum size in bytes of the Data Field in a frame that the Fx_Port is capable of receiving from its attached NxPort. This value is fixed at 2112.
FcFxPortCapR xDataFieldSizeMin	FcRxDataFieldSize	SNMP	R	The minimum size in bytes of the Data Field in a frame that the Fx_Port is capable of receiving from its attached NxPort. This value is fixed at 2112.
FcFxPortCapC os	FcCosCap	SNMP	R	A value indicating the set of Classes of Service that the Fx_Port is capable of supporting. This value is fixed at CLASS_2 CLASS_3 (0x0C).

fcFxPortCapIntermix	INTEGER	SNMP	R	A flag indicating whether or not the Fx_Port is capable of supporting the intermixing of Class 2 and Class 3 frames during a Class 1 connection. This flag is valid only if the port is capable of supporting Class 1 service. The values are defined as follows: yes(1) and no(2). This value is fixed no(2).
FcFxPortCapStackedConnMode	FcStackedConnMode	SNMP	R	A value indicating the mode of Stacked Connect request that the Fx_Port is capable of supporting. This value is fixed at none(1).
FcFxPortCapClass2SeqDeliv	INTEGER	SNMP	R	A flag indicating whether or not the Fx_Port is capable of supporting Class 2 Sequential Delivery. This value is fixed at yes(1).
FcFxPortCapClass3SeqDeliv	INTEGER	SNMP	R	A flag indicating whether or not the Fx_Port is capable of supporting Class 3 Sequential Delivery. This value is fixed at yes(1).
FcFxPortCapHoldTimeMax	MicroSeconds	SNMP	R	The maximum holding time (in microseconds) that the Fx_Port is capable of supporting. This value is not supported. It is always zero.
FcFxPortCapHoldTimeMin	MicroSeconds	SNMP	R	The minimum holding time (in microseconds) that the Fx_Port is capable of supporting. This value is not supported. It is always zero.
FcFxPortCapBaudRates	FcOBaudRateCap	FPM	R	A value indicating the set of baud rates that the Fx_Port is capable of supporting. This variable has been deprecated and may be implemented for backward compatibility.
FcFxPortCapMedia	FcOMediaCap	FPM	R	A value indicating the set of media that the Fx_Port is capable of supporting.

Note: All of the counters are 32-bit counters.

Fibre Alliance MIB

Type Definitions

Type	Syntax	Description
FcNameId	OCTET STRING (SIZE(8))	Represents the World Wide Name (WWN; IEEE 60-bit variety; standard part of T11 definitions for Fibre Channel) associated with a Fibre Channel (FC) entity.
FcGlobalId	OCTET STRING (SIZE(16))	Represents the World Wide Name (WWN; IEEE 124-bit variety) associated with a Fibre Channel (FC) entity.

FcEventSeverity	INTEGER	<p>The set of values which define the event severity that will be logged by this connectivity unit. Values unknown (1) through debug (9) are essentially self-explanatory; mark (10) means that all messages are logged.</p> <p>The values are defined as follows: unknown (1), emergency (2), alert (3), critical (4), error (5), warning (6), notify (7), info (8), debug (9), mark (10).</p>
FcUnitType	INTEGER	<p>The values are defined as follows: unknown (1) – cannot be determined, other (2) – none of the following, hub (3) – passive connectivity unit supporting loop protocol, switch (4) – active connectivity unit supporting multiple protocols, gateway (5) – unit that converts not only the interface but also the frame into another protocol. The assumption is that there are always two gateways connected together. For example, FC <-> ATM, converter (6) – unit that converts from one interface to another, For example, FC <-> SCSI, hba(7) – host bus adapter, proxyAgent (8) – software proxy-agent, storageDevice (9) – disk, cd, tape, etc, host (10) – host computer, storageSubsystem (11) – raid, library, etc, module (12) – subcomponent of a system, swDriver (13) – software driver, storageAccessDevice (14) – Provides storage management and access for heterogeneous hosts and heterogeneous devices.</p>
FcPortFCClass	BITS	<p>Represents the class(es) of service represented on a given port, in a given operational context. The values are defined as follows: unknown (0), classF (1), class1(2), class2 (3), class3 (4), class4 (5), class5 (6), class6 (7).</p>

Connectivity Unit Group

FA MIB Object Name	Type	Value	Access	Description
fcConnUnitNumber	INTEGER	1	R	The number of connectivity units present on this system. May be a count of the boards in a chassis, or the number of full boxes in a rack.
FcConnURL	DisplayString	http://switch's IP-addr	R	<p>The top-level URL of the system. If it does not exist, the value is an empty string. The URL format is implementation dependent and can have keywords embedded that are preceded by a percent sign (for example,%USER).</p> <p>The following are the defined keywords that will be recognized and replaced with data during a launch:</p> <p>USER - replace with username PASSWORD - replace with password GLOBALID - replace with globalid SERIALNO - replace with serial number</p> <p>A management application will read this object from the MIB, provide values for any of the keywords listed above that are present in the string, and then use the URL to invoke or launch the program referenced.</p>
FcConnUnitSnsMaxRows	Unsigned32 (Same as Gauge).	The number of entries of the Name Server Table.	R	The maximum number of rows in the fcConnUnitSnsTable table.

fcConnUnitTable

Contains general information on the system's units

FA MIB Object Name	Type	Product Mapping	Access	Description
*fcConnUnitId	OCTET STRING	Switch's WWN.	R	The unique identification for this connectivity unit among those within this proxy domain. The value <i>must</i> be unique within the proxy domain because it is the index variable for fcConnUnitTable. The value assigned to a given connectivity unit <i>should</i> be persistent across agent and unit resets. It <i>should</i> be the same as fcConnUnitGlobalId if fcConnUnitGlobalId is known and stable.
FcConnUnitGlobalId	FcGlobalId	Switch's WWN.	R	<p>An optional global-scope identifier for this connectivity unit. It <i>must</i> be a WWN for this connectivity unit or 16 octets of value zero.</p> <p>WWN formats requiring fewer than 16 octets <i>must</i> be extended to 16 octets with trailing zero octets. If a WWN is used for fcConnUnitId, the same WWN <i>must</i> be used for fcConnUnitGlobalId.</p> <p>When a non-zero value is provided, it <i>should</i> be persistent across agent and unit resets. It <i>should</i> be globally unique. It <i>should</i> be one of these FC-PH/PH3 formats:</p> <p>IEEE (NAA=1) IEEE Extended (NAA=2) IEEE Registered (NAA=5) IEEE Registered extended (NAA=6)</p> <p>Use of the IEEE formats allows any IEEE-registered vendor to assure global uniqueness independently. The following are some references on IEEE WWN formats:</p> <p>http://standards.ieee.org/regauth/oui/tutorials/fibreformat.html http://standards.ieee.org/regauth/oui/tutorials/fibrecomp_id.html</p> <p>(continues in next cell)</p>

FcConnUnitGlobalId (continued from previous cell)	FcGlobalId	Switch's WWN.	R	(continued from previous cell) If one or more WWNs are associated with the connectivity unit via other management methods, one of them <i>should</i> be used for fcConnUnitGlobalId. If there is not a WWN assigned specifically to the connectivity unit, there is some merit, though not a requirement, to using a WWN assigned to (one of) its permanently attached FC/LAN interface(s). This cannot risk uniqueness, though. As a counterexample, if your agent runs in a host and the host has an HBA, it is quite possible that agent, host, and HBA will all be distinct connectivity units, so the host and agent cannot use the WWN of the HBA. Another example: If your hub has a built-in Ethernet port, it might be reasonable for the hub to use its LAN address (prefixed with the appropriate NAA) as its fcConnUnitId. But if the Ethernet is a replaceable PC Card, the hub should have an independent ID.
FcConnUnitType	FcUnitType	switch(4)	R	The type of this connectivity unit.
FcConnUnitNumPorts	Unsigned32	Number of ports from PROD_CNFG.	R	Number of physical ports in the connectivity unit (internal/embedded, external).
FcConnUnitState	INTEGER	online and coming-online will indicate online state (2), and offline and going-offline will indicate offline state (3).	R	This object reports the overall state of the connectivity unit. The meaning of all values is essentially self-explanatory. Any of these values may occur with any of the fcConnUnitStatus values. The values are defined as follows: unknown (1), online (2), offline (3).

FcConnUnitStatus	INTEGER	This value will be mapped from current status of switch in such a way that operational status indicates ok (3), degraded status indicates warning (4), failed status indicates failed (5).	R	This object reports the overall status of the connectivity unit. The warning (4) value means that the connectivity unit needs attention; all other values are essentially self-explanatory. Any of these values may occur with any of the fcConnUnitState values. The values are defined as follows: unknown (1), unused (2), ok (3), warning(4), failed (5)
fcConnUnitProduct	SnmpAdminString	OEM product name.	R	The connectivity unit vendor's product model name.
FcConnUnitSerialNo	SnmpAdminString	OEM serial number.	R	The serial number identification for this connectivity unit.
FcConnUnitUpTime	TimeTicks		R	The number of centiseconds since the last unit initialization.
FcConnUnitUrl	DisplayString	Same as fcConnURL.	R/W	URL to launch a management application, if applicable. Otherwise, empty string. In a standalone unit, this would be the same as the top level URL. This has the same definition as the system URL for keywords.
FcConnUnitDomainId	OCTET STRING (SIZE (3))	FFCCXX XX is the active domainId of the switch.	R	24-bit Fibre Channel address ID of this connectivity unit. Following the Fibre Channel standard, the right-most bit of the right-most octet is for the least significant bit of the address value; the left-most bit of the left-most octet, if needed, is for the most significant bit of the address value. If this value is not applicable, all bits are set to 1.
FcConnUnitProxyMaster	INTEGER	yes(3)	R	A value of "yes" means this is the proxy master unit for a set of managed units. For example, this could be the only unit with a management card in it for a set of units. A standalone unit should return "yes" for this object. The values are defined as follows: unknown (1), no (2), yes (3).

FcConnUnitPrincipal	INTEGER		R	Whether this connectivity unit is the principal unit within the group of fabric elements. If this value is not applicable, return unknown. The values are defined as follows: unknown (1), no (2), yes (3).
FcConnUnitNumSensors	Unsigned32	The number of sensors.	R	Number of sensors in the fcConnUnitSensorTable.
FcConnUnitNumRevs	Unsigned32	1	R	The number of revisions in the fcConnUnitRevsTable.
FcConnUnitModuleId	OCTET STRING(SIZE(16))	Returns 16 zeros. (currently not supported)	R	A unique id, persistent between boots, that can be used to group a set of connectivity units together into a module. The intended use would be to create a connectivity unit with an fcConnUnitType of "module" to represent a physical or logical group of connectivity units. Then the members of the group would set the value of fcConnUnitId for this "container" connectivity unit. FcConnUnitModuleId should be zeros if this connectivity unit is not part of a module.
FcConnUnitName	SnmpAdminString	Switch's configured name. Writable and persistent across IPL.	R/W	A name for this connectivity unit. This object value should be persistent between boots.
FcConnUnitInfo	SnmpAdminString	Textual description of the product. Writable and persistent across IPL.	R/W	Information about this connectivity unit. This object value should be persistent between boots.

FcConnUnitControl	INTEGER	<p>Always return unknown (1) on read operation.</p> <p>ResetConnUnitWarmStart (4), offlineConnUnit (5), and onlineConnUnit (6) will be supported by PCP.</p> <p>ResetConnUnitWarmStart (4) indicates IPL on the switch is performed.</p> <p>ResetConnUnitColdStart (3) is not supported.</p>	R/W	<p>Is used to control the addressed connectivity unit.</p> <p>NOTE: "ColdStart" and "WarmStart" are as defined in mib-2 and are not meant to be a factory reset.</p> <p>ResetConnUnitColdStart: the addressed unit performs a "ColdStart" reset.</p> <p>ResetConnUnitWarmStart: the addressed unit performs a "WarmStart" reset.</p> <p>OfflineConnUnit: the addressed unit puts itself into an implementation dependant "offline" state. In general, if a unit is in an offline state, it cannot be used to perform meaningful Fibre Channel work.</p> <p>OnlineConnUnit: the addressed unit puts itself into an implementation dependant "online" state. In general, if a unit is in an online state, it is capable of performing meaningful Fibre Channel work.</p> <p>NOTE: Each implementation may choose not to support SNMP Set operations for any or all of these values. For Sets specifying varbinds for instances of this object and values not supported by a given implementation, the agent will return the SNMP WrongValue PDU error code.</p> <p>The values are defined as follows: unknown (1), invalid (2), resetConnUnitColdStart (3), resetConnUnitWarmStart (4), offlineConnUnit (5), onlineConnUnit (6).</p>
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FcConnUnitContact	SnmpAdminString	Contact information for this connectivity unit. Writable and persistent across IPL.	R/W	Contact information for this connectivity unit. The contact information is intended to facilitate contacting someone in case of problems, questions, and so forth. (for example, the help desk internal to a company).
FcConnUnitLocation	SnmpAdminString	The physical location of the switch. Writable and persistent across IPL.	R/W	Location information for this connectivity unit.
FcConnUnitEventFilter	FcEventSeverity	Writable and it is set to the default value of info(8) after IPL.	R/W	Defines the event severity that will be logged by this connectivity unit. All events of severity less than or equal to fcConnUnitEventFilter are logged in the fcConnUnitEventTable.
FcConnUnitNumEvents	Unsigned32	Number of events in the fcConnUnitEventTable. It is always ≤ 200 , the maximum size of the event table.	R	Number of events currently in the fcConnUnitEventTable.
FcConnUnitMaxEvents	Unsigned32	200.	R	Max number of events that can be recorded at any one time in the fcConnUnitEventTable.
FcConnUnitEventCurrID	Unsigned32	The current event index is used as the last used event id.	R	The last used event id (fcConnUnitEventIndex) recorded in the fcConnUnitEventTable. When no events are presently recorded in the fcConnUnitEventTable, the value of this object <i>must</i> be zero.

Firmware Table

The revisions table lists the revisions supported by the associated connectivity units.

FA MIB Object Name	Type	Product Mapping	Access	Description
*fcConnUnitRevsIndex	Unsigned 32	Not accessible	R	A unique value among all fcConnUnitRevsEntry with the same value of fcConnUnitId, in the range between 1 and fcConnUnitNumRevs[fcConnUnitId].
FcConnUnitRevsRevision	SnmpAdminString	XX.XX.XX (The revision of the switch).	R	A vendor-specific value identifying a revision of a component of the connectivity unit.
FcConnUnitRevsDescription	SnmpAdminString	Switch Firmware Level	R	Description of a component in the fcConnUnit to which the revision corresponds.

Sensor Table

The sensor table lists the sensors (for fan and power supplies) supported by each switch. For each switch, the table will contain a list of all fan and power supply FRU positions, regardless of whether they are installed. When a FRU is not installed, the UnitSensorStatus for that table entry will be unknown(1). When a power supply or fan FRU is installed or removed, a sensor trap will be sent (if enabled), which contains an index to the appropriate entry in this table, for the affected FRU. Note that the number of entries in the table does not change when a fan/power supply FRU is installed or removed.

FA MIB Object Name	Type	Product Mapping	Access	Description
*fcConnUnitSensorIndex	Unsigned 32	Not assessable.	R	A unique value among all fcConnUnitSensorEntrys with the same value of fcConnUnitId, in the range between 1 and fcConnUnitNumSensors[fcConnUnitId].
FcConnUnitSensorName	SnmpAdminString	The module name of the FRU, such as FAN, PWR or THM.	R	A textual identification of the sensor, intended primarily for operator use.
FcConnUnitSensorStatus	INTEGER	This value is evaluated from FRU status. The active, backup and update-busy states are mapped to ok(3). The failed state is mapped to failed(5).	R	The status indicated by the sensor. The values are defined as follows: unknown (1) – the unit cannot determine the status, other (2) -- the status does not fit any of the remaining values, ok (3) – indicates good status, warning (4) – indicates the unit needs attention, failed (5) B indicates the unit is non-functional.
FcConnUnitSensorInfo	SnmpAdminString	The serial number of the FRUs. This is not supported if the module is failed.	R	Miscellaneous static information about the sensor, such as its serial number.

FcConnUnitSensorMessage	SnmAdminString	The textual description of the FRU status, such as "active" or "failed".	R	Describes the status of the sensor as a message. It may also provide more resolution on the sensor indication, for example "Cover temperature 1503K, above nominal operating range".
FcConnUnitSensorType	INTEGER	Fan (4) or power-supply (5).	R	The type of component being monitored by this sensor. The unknown (1) and other (2) value meanings are analogous to those for the fcConnUnitSensorStatus object; all other values are essentially self-explanatory. The values are defined as follows: unknown (1), other (2), battery (3), fan (4), powerSupply (5), transmitter (6), enclosure (7), board (8), and receiver (9).
FcConnUnitSensorCharacteristic	INTEGER	Not supported. Always other (2).	R	The characteristics being monitored by this sensor. The unknown (1) and other (2) value meanings are analogous to those for the fcConnUnitSensorStatus object; emf (5) refers to electro-magnetic field; all other values are essentially self-explanatory. The values are defined as follows: unknown (1), other (2), temperature (3), pressure (4), emf (5), currentValue (6), airflow (7), frequency (8), and power (9).

Port Table

Generic information on ports for a specific fcConnUnit.

FA MIB Object Name	Type	Product Mapping	Access	Description
fcConnUnitPortIndex	Unsigned 32	Port index.	R	A unique value among all fcConnUnitPortEntries on this connectivity unit, between 1 and fcConnUnitNumPorts.
FcConnUnitPortType	INTEGER	<p>If the port is Not installed, notPresent(3) else if the Port State is online, use the operating Port Type: F_Port = fPort(8) FL_Port = flPort(7) E_Port = ePort(9) H_Port = hubPort(4) B_Port = ePort(9) else use the configured Port Type: Gx_Port = gPort(10) G_Port = gPort(10) Fx_Port = flPort(7) F_Port = fPort(8) E_Port = ePort(9)</p>	R	<p>Refers to the protocol active on the port and can take one of the following values: unknown (1) – cannot be determined, other (2) – none of the following, notPresent (3) – no port, hubPort (4) – hub port, nPort (5) – end port for fabric, lPort (6) – end port for loop, flPort (7) – public loop, fPort (8) – fabric port, ePort (9) – fabric expansion port, gPort (10) – generic fabric port, domainController (1) – domain controller, hubController (12) – hub controller, scsi (13) – parallel SCSI port, escon (14) – escon port, lan (15) – LAN port, wan (16) – WAN port.</p>

FcConnUnitPortFCClassCap	FcPortFCClass	<p>If the port is not installed, fcConnUnitPortFCClassCap = 0</p> <p>else if ES-1000</p> <p>H_Port 0x18 = class2(0x10) + class3(0x08)</p> <p>B_Port 0x58 = classF(0x40) + class2(0x10) + class3(0x08)</p> <p>else depends on the configured Port Type:</p> <p>Gx_Port 0x58 = classF(0x40) + class2(0x10) + class3(0x08)</p> <p>G_Port 0x58 = classF(0x40) + class2(0x10) + class3(0x08)</p> <p>Fx_Port 0x18 = class2(0x10) + class3(0x08)</p> <p>F_Port 0x18 = class2(0x10) + class3(0x08)</p> <p>E_Port 0x58 = classF(0x40) + class2(0x10) + class3(0x08)</p>	R	<p>Bit mask that specifies the classes of service capability of this port. If this object is not applicable, the agent <i>must</i> return all bits set to zero.</p>
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FcConnUnitPortFCClassOp	FcPortFCClass	<p>If the port is Not installed <code>fcConnUnitPortFCClassOp = 0</code> else if the Port State is offline <code>fcConnUnitPortFCClassOp = 0</code> else it depends on the operating Port Type: F_Port Use Class of Service specified in Fabric Login FL_Port Use Class of Service specified in one or more Fabric Login's (OR'd together) E_Port <code>0x58 = classF(0x40) + class2(0x10) + class3(0x08)</code></p>	R	Bit mask that specifies the classes of service that are currently operational at this port. If this object is not applicable, the agent <i>must</i> return all bits set to zero.
FcConnUnitPortState	INTEGER	See " Port State Descriptions " on page 145.	R	The current state of the port hardware. The bypassed value (4) means that the port is online but is currently being isolated from the loop or fabric for some reason; the other values are essentially self-explanatory. Any value for this object may co-exist with any value for the <code>fcConnUnitPortStatus</code> object. The values are defined as follows: unknown (1), online (2), offline (3), bypassed (4).

FcConnUnitPortStatus	INTEGER	See "Port State Descriptions" on page 145.	R	The current overall protocol status for the port. The warning value (4) means that the port needs attention; the notParticipating value (6) means that protocol is not being processed; the initializing value (7) means that the port is in the process of coming into service; the bypassed value (8) means that the port has been manually or automatically isolated from the loop or fabric; the other values are essentially self-explanatory. Any value for this object may co-exist with any value for the fcConnUnitPortState object. The values are defined as follows: unknown (1), unused (2), ok (3), warning (4), failure (5), notParticipating (6), initializing (7), bypassed (8).
FcConnUnitPortTransmitterType	INTEGER	Mapped from the port technology as follows: not present and serial indicate unknown(1), optical sw1g and optical sw2g indicate shortwave(4). Optical lw1g and optical lw2g indicate longwave(5), copper db9 and copper amp indicate copper(6).	R	The technology of the port transceiver. The values are defined as follows: unknown (1), other (2), unused (3), shortwave (4) longwave (5), copper (6), scsi (7), longwaveNoOFC (8), shortwaveNoOFC (9), longwaveLED (10).

fcConnUnitPortModuleType	INTEGER	If the port is not installed, return gbicNotInstalled(8). Otherwise return smallFormFactor(9).	R	The module type of the port connector. This object refers to the hardware implementation of the port. The embedded value (4) means "fixed" (for example, oneXnine). The values are defined as follows: unknown (1), other (2), gbic (3), embedded (4), glm(5), gbicSerialId (6), gbicNoSerialId (7), gbicNotInstalled (8), smallFormFactor (9).
FcConnUnitPortWwn	FcNameId	World Wide Name of the port.	R	The World Wide Name of the port. If applicable; otherwise empty string.
FcConnUnitPortFCId	OCTET STRING (SIZE(3))	If this is an F-port, return fabric address of the node in form of [domain, area, node]. (Supported by Login Server) If this is an E-port, return left-adjusted domain ID of the switch.	R	The assigned Fibre Channel ID of this port. This value is expected to be a Big Endian value of 24 bits. If this is a loop, it is the ALPA that is connected. If this is an E_port, it will only contain the domain ID left justified, zero filled. If this port does not have a Fibre Channel address, return all bits set to 1.
FcConnUnitPortSerialNoSn	SnmpAdminString	Not applicable.	R	The serial number identification of the unit (for example, for a GBIC). If this is not applicable, return a zero-length string.
FcConnUnitPortRevision	SnmpAdminString	Not applicable.	R	The port revision (for example, for a GBIC).
FcConnUnitPortVendor	SnmpAdminString	Not applicable.	R	The port vendor (for example, for a GBIC).
FcConnUnitPortSpeed	Gauge32	Return 100000 kilobytes for 1 Gb/s switches and 200000 kilobytes for 2 Gb/s switches.	R	The speed of the port in kilobytes per second.

FcConnUnitPortControl	INTEGER	ResetConnUnitPort(3), offlineConnUnitPort(6), onlineConnUnitPort(7), and portFailure(42501) are the only set-operations supported. Always return unknown(1) on read.	R/W	<p>Is used to control the addressed fcConnUnit's port. Valid commands are:</p> <p>Unknown (1) and invalid (2) are only used as values that are read.</p> <p>ResetConnUnitPort (3): If the addressed connectivity unit allows this operation to be performed on this port, the addressed port performs a vendor-specific "reset" operation. Examples of these operations are: the Link Reset protocol, the Loop Initialization protocol, or a resynchronization occurring between the transceiver in the addressed port to the transceiver that the port is connected to.</p> <p>BypassConnUnitPort (4): If the addressed connectivity unit allows this operation to be performed on this port, the addressed port performs a vendor-specific "bypass" operation. Examples of these operations are: transitioning from online to offline, a request (nonParticipating) command to the Loop Port state machine, or removal of the port from an arbitrated loop by a hub.</p> <p>UnbypassConnUnitPort (5): If the addressed connectivity unit allows this operation to be performed on this port, the addressed port performs a vendor-specific "unbypass" operation.</p> <p>(continued in next cell)</p>
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FcConnUnitPortControl (continued)				<p>(continued from previous cell)</p> <p>Examples of these operations are: the Link Failure protocol, a request (participating) command to the Loop Port state machine, or addition of the port to an arbitrated loop by a hub.</p> <p>OfflineConnUnitPort (6): If the addressed connectivity unit allows this operation to be performed on this port, the addressed port performs a vendor-specific "offline" operation. Examples of these operations are: disabling a port's transceiver, the Link Failure protocol, request (nonParticipating) command to the Loop Port state machine, or removal of the port from an arbitrated loop by a hub.</p> <p>(continued in next cell)</p>
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FcConnUnitPortControl (continued)				<p>(continued from previous cell)</p> <p>OnlineConnUnitPort (7): If the addressed connectivity unit allows this operation to be performed on this port, the addressed port performs a vendor-specific "online" operation. Examples of these operations are: enabling a port's transceiver, the Link Failure protocol, request (participating) command to the Loop Port state machine, or addition of the port from an arbitrated loop by a hub.</p> <p>NOTE: Each implementation may chose not to support SNMP Set operations for any or all of these values. For Sets specifying varbinds for instances of this object and values not supported by a given implementation, the agent will return the SNMP WrongValue PDU error code.</p>
FcConnUnitPortName	SnmpAdminString	Port Name	R/W	A string describing the addressed port.

FcConnUnitPortPhysicalNumber	Unsigned 32	Physical port number from 0 to Maximum port number – 1	R	The internal port number this port is known by. In many implementations, this should be the same as fcConnUnitPortIndex. Some implementations may have an internal port representation not compatible with the rules for table indexes. In that case, provide the internal representation of this port in this object. This value may also be used in the fcConnUnitLinkPortNumberX or fcConnUnitLinkPortNumberY objects of the fcConnUnitLinkTable.
FcConnUnitPortProtocolCap (added from Mib3.0)	OCTET STRING (SIZE (2))	If the port is Not installed fcConnUnitPortProtocolCap = 0 else if ES-1000 H_Port 1 = Loop(1) B_Port 2 = Fabric(2) else it depends on the configured Port Type: Gx_Port 3 = Loop(1) + Fabric(2) G_Port 2 = Fabric(2) Fx_Port 3 = Loop(1) + Fabric(2) F_Port 2 = Fabric(2) E_Port 2 = Fabric(2)	R	Bit mask that specifies the driver-level protocol capability of this port. If this is not applicable, return all bits set to zero. The bits have the following definition: unknown – 0, Loop – 1, Fabric – 2, SCSI – 4, TCP/IP – 8, VI – 16, FICON – 32.

FcConnUnitPortProtocolOp (added from Mib3.0)	OCTET STRING (SIZE (2))	If the port is Not installed fcConnUnitPortProtocolOp = 0 else if the Port State is offline fcConnUnitPortProtocolOp = 0 else it depends on the operating Port Type: F_Port 2 = Fabric(2) FL_Port 1 = Loop(1) E_Port 2 = Fabric(2) H_Port 1 = Loop(1) B_Port 2 = Fabric(2)	R	Bit mask that specifies the driver level protocol(s) that are currently operational. If this is not applicable, return all bits set to zero. This object has the same definition as fcConnUnitPortProtocolCap.
FcConnUnitPortNodeWwn (added from Mib3.0)	FcNameId	Switch WWN	R	The Node World Wide Name of the port if applicable, otherwise all zeros. This should have the same value for a group of related ports. The container is defined as the largest physical entity. For example, all ports on HBAs on a host will have the same Node WWN. All ports on the same storage subsystem will have the same Node WWN.
FcConnUnitPortHWState (added from Mib3.0)	INTEGER	See " Port State Descriptions " on page 145.	R	The hardware detected state of the port. The values are defined as follows: unknown (1), failed (2) – port failed diagnostics, bypassed (3) – FCAL bypass, loop only, active (4) – connected to a device, loopback (5) – Port in ext loopback, txfault (6) – Transmitter fault, noMedia (7) – media not installed, linkDown (8) – waiting for activity (rx sync).

The Event Table

The table of connectivity unit events. Errors, warnings, and information should be reported in this table.

FA MIB Object Name	Type	Product Mapping	Access	Description
*fcConnUnitEventIndex	Unsigned32	An event index.	R	Each connectivity unit has its own event buffer. As it wraps, it may write over previous events. This object is an index into the buffer. It is recommended that this table be read using "getNexts" to retrieve the initial table. The management application should read the event table at periodic intervals and then determine if any new entries were added, by comparing the last known index value with the current highest index value. The management application should then update its copy of the event table. If the read interval is too long, it is possible that there may be events that may not be contained in the agent's internal event buffer. For example, an agent may read events 50-75. At the next read interval, fcConnUnitEventCurrID is 189. If the management app tries to read event index 76, and the agent's internal buffer is 100 entries max, event index 76 will no longer be available.

*fcConnUnitEventIndex (continued)				The index value is an incrementing integer starting from one every time there is a table reset. On table reset, all contents are emptied, and all indices are set to zero. When an event is added to the table, the event is assigned the next higher integer value than the last item entered into the table. If the index value reaches its maximum value, the next item entered will cause the index value to roll over and start at one again.
FcConnUnitREventTime	DisplayString (SIZE (15))	The time when the event occurred.	R	The real time when the event occurred. It has the following format: DDMMYYYY HHMMSS DD = day number, MM = month number, YYYY = year number, HH = hour number, MM= minute number, SS = seconds number If not applicable, return a NULL string.
FcConnUnitSEventTime	TimeTicks	Translated from fcConnUnitREventTime.	R	This is the sysuptime timestamp when the event occurred.
FcConnUnitEventSeverity	FcEventSeverity	The mapping from switch event severity level to FcEventSeverity: <u>SWITCH</u> informational info(8) minor major (4) severe (2) <u>MIB</u> error(5) critical emergency	R	The event severity level: unknown (1) emergency (2) alert (3) critical (4) error (5) warning (6) notify (7) info (8) debug (9) mark (10)

FcConnUnitEventType	INTEGER	Always status(3).	R	The type of this event. The values are defined as follows: unknown (1), other (2), status (3), configuration (4), topology (5).
FcConnUnitEventObject	OBJECT IDENTIFIER	Only the OID of the fcConnUnit is returned. Other information is not supported.	R	Used with the fcConnUnitEventType to identify which object the event refers to. It can be the OID of a connectivity unit or of another object like fcConnUnitPortStatus[...]
fcConnUnitEventDescr	SnmpAdminString	"Reason code XX", XX is the event reason code.	R	The description of the event.

Link Table

The link table is intended to organize and communicate any information to the agent which would assist a management application to discover the connectivity units in the framework and the topology of their interconnect. That is, the goal is to assist the management application not only to list the elements of the framework, but to map them.

With this goal, the agent *should* include as much information as it possesses about any links from its own connectivity units to others, including links among its own units.

An agent *should* include partial information about links if it is not able to fully define them. For an entry to be considered to be valid, both the X (local) and the Y (remote) need to have one valid value.

If the agent is able to discover links which do not directly attach to members of its agency, and its discovery algorithm gives some assurance that the links are recently valid, it *may* include these links.

Link information entered by administrative action MAY be included, even if not validated directly, if the link has at least one endpoint in this agency, but *should not* be included otherwise.

A connectivity unit can fill the table in as best it can. One of the methods to fill this in would be to use the RNID ELS (ANSI document 99-422v0). This makes it possible to query a port for the information needed for the link table.

This table is accessed either directly, if the management software has an index value, or via GetNexts. The values of the indexes are not required to be contiguous. Each entry created in this table will be assigned an index. This relationship is kept persistent until the entry is removed from the table or the system is reset. The total number of entries is defined by the size of the table.

Note: For EOS firmware: A reset or firmware load will cause this table to be regenerated from the persistent login database – table indices will most likely be associated with different entries after the reset.

FA MIB Object Name	Type	Product Mapping	Access	Description
*fcConnUnitLinkIndex	Unsigned 32	A link index.	R	This value is used to create a unique value for each entry in the link table with the same fcConnUnitId. The value can only be reused if it is not currently in use and the value is the next candidate to be used. This value is allowed to wrap at the highest value represented by the number of bits. This value is reset to zero when the system is reset, and the first value to be used is 1.
FcConnUnitLinkNodeIdx	OCTET STRING (SIZE(16))	The WWN of the local fcConnUnit is returned. This information is available for both E and F_Ports	R	The node WWN of the unit at one end of the link. If the node WWN is unknown and the node is an fcConnUnit in the responding agent, the value of this object <i>must</i> BE equal to its fcConnUnitId.
FcConnUnitLinkPortNumberX	Integer32	The fcConnUnit's local port number is returned. This information is available for both E and F_Ports.	R	The port number on the unit specified by fcConnUnitLinkNodeIdx if known, otherwise -1. If the value is non-negative, it will be equal to fcConnUnitPortPhysicalNumber.
FcConnUnitLinkPortWwnX	OCTET STRING	The local side port WWN on the link. This information is available for both E and F_Ports.	R	The port WWN of the unit specified by fcConnUnitLinkNodeIdx if known, otherwise 16 octets of binary 0.

FcConnUnitLinkNodeIDY	OCTET STRING (SIZE(16))	The attached node WWN on the link. This information is available for E_Ports and F_Ports. E port nodeIDY can be retrieved from RNID, F port NodeIDY is supported by FLOGI.	R	The node WWN of the unit at the other end of the link. If the node WWN is unknown and the node is an fcConnUnit in the responding SNMP agent, the value of this object <i>must</i> be equal to its fcConnUnitId.
FcConnUnitLinkPortNumberY	Integer32	The attached port number on the link. For F port, -1 is returned.	R	The port number on the unit specified by fcConnUnitLinkNodeIDY if known, otherwise -1. If the value is non-negative, it will be equal to fcConnUnitPortPhysicalNumber.
FcConnUnitLinkPortWwnY	OCTET STRING	The attached port WWN on the link. For E_Ports, returns the WWN of the connected switch.	R	The port WWN on the unit specified by fcConnUnitLinkNodeIDY if known, otherwise 16 octets of binary 0.
FcConnUnitLinkAgentAddressY	OCTET STRING (SIZE(16))		R	The address of an FCMGMT MIB agent for the node identified by fcConnUnitLinkNodeIDY, if known; otherwise 16 octets of binary 0.
FcConnUnitLinkAgentAddressTypeY	Unsigned 32		R	If fcConnUnitLinkAgentAddressY is non-zero, it is a protocol address. FcConnUnitLinkAgentAddressTypeY is the "address family number" assigned by IANA to identify the address format. (For example, 1 is Ipv4, 2 is Ipv6.)

FcConnUnitLinkAgentPortY	Unsigned 32		R	The IP port number for the agent. This is provided in case the agent is at a non-standard SNMP port.
FcConnUnitLinkUnitTypeY	FcUnitType	If it is an E port, return switch (4). Otherwise return RNID type Y.	R	Type of the FC connectivity unit, as defined in fcConnUnitType.
FcConnUnitLinkConnIdY	OCTET STRING (SIZE(3))	For F_Ports, return Fibre Channel Address. For E_Ports, return left adjusted domainId of the switch.	R	The Fibre Channel ID of this port. If the connectivity unit is a switch, this is expected to be a 24-bit Big Endian value. If this is loop, it is the ALPA that is connected. If this is an E_Port, it will only contain the domain ID. If not any of those, unknown or cascaded loop, return all bits set to 1.

fcConnUnitPortStatTable - Port Statistics

There is one statistics table for each individual port. For all objects in the statistics table, if the object is not supported by the conn unit, the high order bit is set to 1, with all other bits set to zero. The high order bit is reserved to indicate whether the object is supported or not. All objects start at a value of zero at hardware initialization and continue incrementing until 63 bits and then wrap to zero.

FA MIB Object Name	Type	HP Product Mapping from PSCC to SWITCH.	Access	Description
*fcConnUnitPortStatIndex	Unsigned 32	A port number, starting from 1 to maximum number of ports.	R	A unique value among all entries in this table, between 0 and fcConnUnitNumPort[fcConnUnitPortUnitId]
fcConnUnitPortStatCountError	Counter64	This MIB object counts address ID errors, CRC errors, delimiter errors, frames too short, invalid transmission words, link failures, primitive sequence errors, signal losses, and synchronization losses. (Only supports low 32 bits of counter, high 32 bits are set to zero).	R	A count of the errors that have occurred on this port.

FcConnUnitPortStatCountTx Objects	Counter64	stTxFrames (64-bit counter)	R	The number of frames/packets/los/etc that have been transmitted by this port. Note: A Fibre Channel frame starts with SOF and ends with EOF. FC loop devices should not count frames passed through. This value represents the sum total for all other Tx objects.
FcConnUnitPortStatCountRx Objects	Counter64	stRxFrames (64-bit counter)	R	The number of frames/packets/los/etc that have been received by this port. Note: A Fibre Channel frame starts with SOF and ends with EOF. FC loop devices should not count frames passed through. This value represents the sum total for all other Rx objects.
FcConnUnitPortStatCountTx Elements	Counter64	stTxOctets (64-bit counter)	R	The number of octets or bytes that have been transmitted by this port. A one second periodic polling of the port. This value is saved and compared with the next polled value to compute net throughput. Note, for Fibre Channel, ordered sets are not included in the count.
FcConnUnitPortStatCountRx Elements	Counter64	stRxOctets (64-bit counter)	R	The number of octets or bytes that have been received by this port. A one second periodic polling of the port. This value is saved and compared with the next polled value to compute net throughput. Note, for Fibre Channel, ordered sets are not included in the count.

FcConnUnitPortStatCountBBCreditZero	Counter64	Not supported	R	Count of transitions in/out of Bbcredit zero state. The other side is not providing any credit. Note, this is a Fibre Channel stat only.
FcConnUnitPortStatCountInputBuffersFull	Counter64	Not supported	R	Count of occurrences when all input buffers of a port were full and outbound buffer-to-buffer credit transitioned to zero. There is no credit to provide to other side. Note, this is a Fibre Channel stat only.
FcConnUnitPortStatCountFBSYFrames	Counter64	Not supported	R	Count of times that FBSY was returned to this port as a result of a frame that could not be delivered to the other end of the link. This occurs if either the Fabric or the destination port is temporarily busy. Port can only occur on SOFc1 frames (the frames that establish a connection). Note, this is a Fibre Channel only stat. This is the sum of all classes. If you cannot keep the class counters, keep the sum counters.
FcConnUnitPortStatCountPBSYFrames	Counter64	Not supported	R	Count of times that PBSY was returned to this port as a result of a frame that could not be delivered to the other end of the link. This occurs if the destination port is temporarily busy. PBSY can only occur on SOFc1 frames (the frames that establish a connection). Note, this is a Fibre Channel only stat. This is the sum of all classes. If you cannot keep the class counters, keep the sum counters.

FcConnUnitPortStatCountFRJTFrames	Counter64	Not supported	R	Count of times that FRJT was returned to this port as a result of a Frame that was rejected by the fabric. Note, this is the total for all classes and is a Fibre Channel only stat.
FcConnUnitPortStatCountPRJTFrames	Counter64	Not supported	R	Count of times that FRJT was returned to this port as a result of a Frame that was rejected at the destination N Port. Note, this is the total for all classes and is a Fibre Channel only stat.
FcConnUnitPortStatCountClass1RxFrames	Counter64	Not supported	R	Count of Class 1 Frames received at this port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass1TxFrames	Counter64	Not supported	R	Count of Class 1 Frames transmitted out this port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass1FBSYFrames	Counter64	Not supported	R	Count of times that FBSY was returned to this port as a result of a Class 1 Frame that could not be delivered to the other end of the link. This occurs if either the Fabric or the destination port is temporarily busy. FBSY can only occur on SOFc1 frames (the frames that establish a connection). Note, this is a Fibre Channel only stat.

FcConnUnitPortStatCountClass1PBSYFrames	Counter64	Not supported	R	Count of times that PBSY was returned to this port as a result of a Class 1 Frame that could not be delivered to the other end of the link. This occurs if the destination N_Port is temporarily busy. PBSY can only occur on SOFc1 frames (the frames that establish a connection). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass1FRJTFrames	Counter64	Not supported	R	Count of times that FRJT was returned to this port as a result of a Class 1 Frame that was rejected by the fabric. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass1PRJTFrames	Counter64	Not supported	R	Count of times that FRJT was returned to this port as a result of a Class 1 Frame that was rejected at the destination N_Port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass2RxFrames	Counter64	stC2FramesIn (64-bit counter)	R	Count of Class 2 Frames received at this port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass2TxFrames	Counter64	stC2FramesOut (64-bit counter)	R	Count of Class 2 Frames transmitted out this port. Note, this is a Fibre Channel only stat.

FcConnUnitPortStatCountClass2FBSYFrames	Counter64	stC2FabricBusy (Only supports low 32-bits of counter, high 32-bits are set to zero)	R	Count of times that FBSY was returned to this port as a result of a Class 2 Frame that could not be delivered to the other end of the link. This occurs if either the Fabric or the destination port is temporarily busy. FBSY can only occur on SOFc1 frames (the frames that establish a connection). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass2PBSYFrames	Counter64	Not supported	R	Count of times that PBSY was returned to this port as a result of a Class 2 Frame that could not be delivered to the other end of the link. This occurs if the destination N_Port is temporarily busy. PBSY can only occur on SOFc1 frames (the frames that establish a connection). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass2FRJTFrames	Counter64	stC2FabricReject (Only supports low 32-bits of counter, high 32-bits are set to zero)	R	Count of times that FRJT was returned to this port as a result of a Class 2 Frame that was rejected by the fabric. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass2PRJTFrames	Counter64	Not supported	R	Count of times that FRJT was returned to this port as a result of a Class 2 Frame that was rejected at the destination N_Port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass3RxFrames	Counter64	stC3FramesIn (64-bit counter)	R	Count of Class 3 Frames received at this port. Note, this is a Fibre Channel only stat.

FcConnUnitPortStatCountClass3TxFrames	Counter64	stC3FramesOut (64-bit counter)	R	Count of Class 3 Frames transmitted out this port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountClass3Discards	Counter64	stC3Discards (64-bit counter)	R	Count of Class 3 Frames that were discarded upon reception at this port. There is no FBSY or FRJT generated for Class 3 Frames. They are simply discarded if they cannot be delivered. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountRxMulticastObjects	Counter64	Not supported	R	Count of Multicast Frames or Packets received at this port.
FcConnUnitPortStatCountTxMulticastObjects	Counter64	Not supported	R	Count of Multicast Frames or Packets transmitted out this port.
FcConnUnitPortStatCountRxBroadcastObjects	Counter64	Not supported	R	Count of Broadcast Frames or Packets received at this port.
FcConnUnitPortStatCountTxBroadcastObjects	Counter64	Not supported	R	Count of Broadcast Frames or Packets transmitted out this port. On a Fibre Channel loop, count only OPN frames are generated.
FcConnUnitPortStatCountRxLinkResets	Counter64	StLinkResetsIn (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of Link Resets. This is the number of LRs received. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountTxLinkResets	Counter64	stLinkResetsOut (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of Link Resets. This is the number LRs transmitted. Note, this is a Fibre Channel only stat.

FcConnUnitPortStatCounterNumberLinkResets	Counter64	StLinkResetsIn + stLinkResetsOut (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of Link resets and LIPs detected at this port. The number times the reset link protocol is initiated. These are the count of the logical resets, a count of the number of primitives. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCounterRxOfflineSequences	Counter64	StOlssIn (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of Offline Primitive OLS received at this port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCounterTxOfflineSequences	Counter64	StOlssOut (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of Offline Primitive OLS transmitted by this port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCounterNumberOfflineSequences	Counter64	stOlssIn + stOlssOut (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of Offline Primitive sequences received at this port. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCounterLinkFailures	Counter64	stLinkFailures (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of link failures. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCounterInvalidCRC	Counter64	stInvalidCrcs (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of frames received with invalid CRC. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8). Loop ports should not count CRC errors passing through when monitoring. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCounterInvalidTxWords	Counter64	stInvalidTxWords (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of invalid transmission words received at this port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8). Note, this is a Fibre Channel only stat.

FcConnUnitPortStatCountPrimitiveSequenceProtocolErrors	Counter64	stPrimSeqProtoErrors (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of primitive sequence protocol errors detected at this port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountLossOfSignal	Counter64	stSigLosses (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of instances of signal loss detected at port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountLossOfSynchronization	Counter64	stSyncLosses (Only supports low 32-bits of counter, high 32-bits are set to zero.)	R	Count of instances of synchronization loss detected at port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountInvalidOrderedSets	Counter64	Not supported	R	Count of invalid ordered sets received at port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8). Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountFramesTooLong	Counter64	Not supported	R	Count of frames received at this port where the frame length was greater than what was agreed to in FLOGI/PLOGI. This could be caused by losing the end of frame delimiter. Note, this is a Fibre Channel only stat.

FcConnUnitPortStatCountFramesTruncated	Counter64	stFramesTooShort (Only supports low 32-bits of counter, high 32-bits are set to zero)	R	Count of frames received at this port where the frame length was less than the minimum indicated by the frame header – normally 24 bytes, but it could be more if the DFCTL field indicates an optional header should have been present. Note, this is a Fibre Channel only stat.
fcConnUnitPortStatCountAddressErrors	Counter64	stAddrIDErrors (Only supports low 32-bits of counter, high 32-bits are set to zero)	R	Count of frames received with unknown addressing. For example, unknown SID or DID. The SID or DID is not known to the routing algorithm. Note. This is a Fibre Channel only stat.
FcConnUnitPortStatCountDelimiterErrors	Counter64	stDelimiterErrors (Only supports low 32-bits of counter, high 32-bits are set to zero)	R	Count of invalid frame delimiters received at this port. An example is a frame with a class 2 start and a class 3 at the end. Note, this is a Fibre Channel only stat.
FcConnUnitPortStatCountEncodingDisparityErrors	Counter64	Not supported	R	Count of disparity errors received at this port. Note, this is a Fibre Channel only stat.

Name Server Table

This table is accessed either directly (if the management software has an index value) or via GetNexts. The values of the indexes need not be contiguous. Each entry created in this table will be assigned an index. This relationship is kept persistent until the entry is removed from the table, or the system is reset. The total number of entries is defined by the size of the table.

FA MIB Object Name	Type	Product Mapping	Access	Description
fcConnUnitSnsPortIndex	Unsigned32 (Same as Gauge)	A port number, starting from 1 to maximum number of ports.	R	The physical port number of this SNS table entry. Each physical port has an SNS table with 1-n entries indexed by fcConnUnitSnsPortIdentifier (port address).
fcConnUnitSnsPortIdentifier	FcAddressId	3 bytes FcAddress in the least significant bytes.	R	The Port Identifier for this entry in the SNS table.
fcConnUnitSnsPortName	FcNameId	Port WWN Name.	R	The Port WWN Name for this entry in the SNS table.
fcConnUnitSnsNodeName	FcNameId	Node Name.	R	The Node Name for this entry in the SNS table.
fcConnUnitSnsClassOfSvc	OCTET STRING (SIZE (1))	Class of Service that matches the FC class service convention used in name server.	R	The classes of service offered by this entry in the SNS table.
fcConnUnitSnsNodeIPAddress	OCTET STRING (SIZE (16))	Node IP address.	R	The Ipv6 formatted address of the Node for this entry in the SNS table. In order for this data to be present, IP address must have been registered with the switch.
fcConnUnitSnsProcAssoc	OCTET STRING (SIZE (8))	Process Associator.	R	The Process Associator for this entry in the SNS table. See FC-PH sec. 19.4.
fcConnUnitSnsFC4Type	OCTET STRING (SIZE (32))	FC4 type	R	The FC-4 Types supported by this entry in the SNS table. Bitmap of FC-4 types supported. See FC-GS2 table 27.
fcConnUnitSnsPortType	OCTET STRING (SIZE (1))	Port type	R	The Port Type of this entry in the SNS table. See FC-GS2 table 5.

fcConnUnitSn sPortIPAddres s	OCTET STRING (SIZE (16))	Port IP Address	R	In order for this data to be present, IP address must have been registered with the switch. See FC-GS2 sec 12.4.5.
fcConnUnitSn sFabricPortNa me	FcNameId	Fabric Port Name	R	The Fabric Port name of this entry in the SNS table.
fcConnUnitSn sHardAddress	FcGlobalId	Bytes address from name server in the least significant bytes.	R	The Hard ALPA of this entry in the SNS table. This address is device selected, not dynamically assigned.
fcConnUnitSn sSymbolicPort Name	DisplayStri ng (SIZE (0..79))	Symbolic port name	R	The Symbolic Port Name of this entry in the SNS table.
fcConnUnitSn sSymbolicNo deName	DisplayStri ng (SIZE (0..79))	Symbolic node name	R	The Symbolic Node Name of this entry in the SNS table.

SNMP Trap Registration Group

FA MIB Object Name	Type	Product Mapping	Access	Description
fcTrapMaxCli ents	Unsigned 32	The maximum number of SNMP trap recipients that can be supported in the system.	R	The maximum number of SNMP trap recipients supported by the connectivity unit.
FcTrapClientC ount	Unsigned 32	The current number of trap recipients.	R	The current number of rows in the trap table.

The TrapRegTable

A table containing a row for each IP address/port number that traps will be sent to.

FA MIB Object Name	Type	Product Mapping	Access	Description
*fcTrapRegIp Address	IpAddress	Trap recipient's IP address.	R/C	The IP address of a client registered for traps.
*fcTrapRegPo rt	Unsigned 32	UDP port.	R/C	The UDP port to send traps to for this host. Normally this would be the standard trap port (UDP/162).

FcTrapRegFilter	FcEventSeverity	The severity filter. (This information is not exposed in the SNMP dialog.)	R/C	This value defines the trap severity filter for this trap host. The fcConnUnit will send to the designated target entity traps that have a severity level less than or equal to this value.
FcTrapRegRowState	RowStatus	Row status.	R/C	<p>Specifies the operational status of the row.</p> <p>A RowStatus object may take any of six defined values:</p> <p>active (1): traps may be sent as specified in this row; a management application may change the value of any objects in the row when the status is active.</p> <p>notInService (2): traps will not be sent using this row.</p> <p>notReady (3): the conceptual row exists in the agent, but is missing information necessary to send traps (for example, if any of the other objects in the row are not present or contain invalid values); this value may not be supplied by a management application.</p> <p>createAndGo (4): supplied by a management application wishing to create a new instance of a conceptual row, supplying valid values for the all the other objects in the row, and to have its status automatically set to active, making it available for use in sending traps.</p> <p>createAndWait (5): supplied by a management application wishing to create a new instance of a conceptual row, but not to make it available for use in sending traps at that time; and,</p> <p>destroy (6): supplied by a management application wishing to delete an existing conceptual row.</p>

Trap Types

FA MIB Object Name	Type Number	Product Mapping	OID and Value	Description
fcConnUnitStatusChange	1	Generated when the switch's online status or operational status changes	".1.3.6.1.2.1.8888.1.1.3.1.6" + unitId fcConnUnitStatus, ".1.3.6.1.2.1.8888.1.1.3.1.5" + unitId fcConnUnitState	The overall status of the connectivity unit has changed. Recommended severity level (for filtering): alert.
fcConnUnitDeletedTrap	2	Not supported on the connUnit.	N/A	An fcConnUnit has been deleted from this agent. Recommended severity level (for filtering): warning.
fcConnUnitEventTrap	3	Generated when a new event is generated.	".1.3.6.1.2.1.8888.1.1.7.1.1" + unitId fcConnUnitEventIndex, ".1.3.6.1.2.1.8888.1.1.7.1.5" + unitId fcConnUnitEventType, ".1.3.6.1.2.1.8888.1.1.7.1.6" + unitId fcConnUnitEventObject ".1.3.6.1.2.1.8888.1.1.7.1.7" + unitId fcConnUnitEventDescr	An event has been generated by the connectivity unit. Recommended severity level (for filtering): info.
fcConnUnitSensorStatusChange	4	Generated when one of fans/power supply status is changed.	".1.3.6.1.2.1.8888.1.1.5.1.3" + unitId + sensor_nbr fcConnUnitSensorState	The overall status of the connectivity unit has changed. Recommended severity level (for filtering): alert
fcConnUnitPortStatusChange	5	Generated when a port state/status is changed.	".1.3.6.1.2.1.8888.1.1.6.1.6" + unitId + port_nbr fcConnUnitPortStatus, ".1.3.6.1.2.1.8888.1.1.6.1.5" + unitId + port_nbr fcConnUnitPortState	The overall status of the connectivity unit has changed. Recommended severity level (for filtering): alert

Private (Enterprise-specific) FCEOS MIB

Type	Syntax	Description
FcEosSysOperStatus	INTEGER	The values are defined as follows: operational(1), redundant-failure(2), minor-failure(3), major-failure(4), not-operational(5).
FcEosFruCode	INTEGER	The values are defined as follows: fru-bkplane(1) – Backplane, fru-ctp(2) – Control Processor card, fru-sbar(3) – Serial Crossbar, fru-fan2(4) – Center fan module, fru-fan(5) – Fan module, fru-power(6) – Power supply module, fru-reserved(7) – Reserved, not used, fru-glsl(8) – Longwave, Single-Mode, LC connector, 1 Gig, fru-gsml(9) – Shortwave, Multi-Mode, LC connector, 1 Gig, fru-gxxl(10) – Mixed, LC connector, 1 Gig, fru-gsf1(11) – SFO pluggable, 1 Gig, fru-gsf2(12) – SFO pluggable, 2 Gig, fru-glslr(13) – Longwave, Single-Mode, MT-RJ connector, 1 Gig, fru-gsmr(14) – Shortwave, Multi-Mode, MT-RJ connector, 1 Gig, fru-gxxr(15) – Mixed, MT-RJ connector, 1 Gig, fru-fint1(16) – F-Port, internal, 1 Gig.
FcEosFruPosition	INTEGER (1..255)	
FcEosPortIndex	INTEGER (1..2048)	
FcEosPortPhyState	INTEGER	The values are defined as follows: psNotInstalled(1), psAvailable(2), psBlocked(3), psUnavailable(4), psLinkFailure(5), psLinkFailLOL(6), psIntDiags(7), psExtLoop(8), psPortFail(9), psSR(10), psLR(11), psInaccessible (12), psInactive(13).

FcEosPortWWN	OCTET STRING (SIZE(8))	
FcEosPortList	OCTET STRING (SIZE (32))	
LoopPortALPA	OCTET STRING (SIZE(16))	<p>This is how the ALPAs are represented as a bitmap for products which support loop devices.</p> <p>bit 0 FL_ALPA(00)</p> <p>bits 1-30 ALPA 01-3A</p> <p>bits 31-62 ALPA 3C-72</p> <p>bits 63-94 ALPA 73-B2</p> <p>bits 95-126 ALPA B3-EF</p> <p>For products which do not support loop devices, the bitmap is all zeros.</p>

System Group MIB Variables

FCEOS MIB Object Name	Type	Access	Description
fcEosSysCurrentDate	DisplayString (SIZE (1..64))	R	The current date information.
fcEosSysBootDate	DisplayString (SIZE (1..64))	R	The date and time of the last IPL of the switch.
fcEosSysFirmwareVersion	DisplayString (SIZE (1..24))	R	The current version of the firmware.
fcEosSysTypeNum	DisplayString (SIZE (1..64))	R	The ASCII type number of the switch.
fcEosSysModelNum	DisplayString (SIZE (1..64))	R	The ASCII model number of the switch.
fcEosSysMfg	DisplayString (SIZE (1..64))	R	The ASCII manufacturer name of the switch.
fcEosSysPlantOfMfg	DisplayString (SIZE (1..64))	R	The ASCII plant name of manufacturer of the switch.
fcEosSysEcLevel	DisplayString (SIZE (1..64))	R	The ASCII EC level ID of the switch.

fcEosSysSerialNum	DisplayString (SIZE (1..64))	R	The ASCII system serial number of the switch. Returns the switch OEM serial number.
fcEosSysOperStatus	FcEosSysOper Status	R	The current operational status of the switch.
fcEosSysState	INTEGER	R	If the operational status of the switch is operational, the switch will be in one of the four states: online(1), coming-online(2), offline(3), and going-offline(4).
fcEosSysAdmStatus	INTEGER	R/W	The desired administrative status of the switch. A management station may place the switch in a desired state by setting this object accordingly. The desired administrative statuses are online(1) and offline(2). Online means setting the switch to be accessible by an external Fibre Channel port, and offline means setting the switch to be inaccessible.
fcEosSysConfigSpeed	INTEGER	R	Switch speed capability. A user-initiated option to adjust the system-wide port speed capability. The values are defined as follows: one-gig (1), two-gig (2).
fcEosSysSwitchName	DisplayString (SIZE (1..64))	R/W	The ASCII name of the switch.
fcEosSysSwitchID	OCTET STRING (SIZE(8))	R	The World Wide Name of the switch.
fcEosSysOpenTrunking	TruthValue	R/W	Identifies/configures if HP Open Trunking is enabled.

FRU Table (Module Group)

FCEOS MIB Object Name	Type	Access	Description
fcEosFruCode	fcEosFruCode	R	Field Replaceable Unit. A hardware component of the product that is replaceable as an entire unit. Each module defined in this MIB has a fixed FRU code.
fcEosFruPosition	fcEosFruPosition	R	Identifies the position of the module. The value starts from 1 to the maximum number of the cards that can be contained within this switch.

fcEosFruStatus	INTEGER	R	Identifies the operational status of the module. The unknown(0) state indicates that no information is available for the FRU, which may happen when no FRU is installed; The active(1) state indicates that the current module is active; The backup(2) state indicates that the backup module is used; The update-busy (3) state indicates that the module is in the updating process; The failed(4) state indicates that the current module is failed.
fcEosFruPartNumber	DisplayString (SIZE (0..64))	R	The part number of the module. For the fan FRU, the returned value is NULL.
fcEosFruSerialNumber	DisplayString (SIZE (0..64))	R	The serial number of the module. For the fan FRU, the returned value is NULL.
fcEosFruPowerOnHours	Counter	R	The number of the hours that the FRU has been in operation. For the fan FRU, the returned value is NULL.
fcEosFruTestDate	DisplayString (SIZE (0..64))	R	The final test date of the module. For the fan FRU, the returned value is NULL.

Port Table (Port Group)

FCEOS MIB Object Name	Type	Access	Description
fcEosPortIndex	fcEosPortIndex	R	Fixed physical port number on the switch. It ranges from 1 to the number of physical ports that can be supported in the switch.
fcEosPortPhyState	fcEosPortPhyState	R	The physical state of the port.
fcEosPortOpStatus	INTEGER	R	The operational status of the port. The values are defined as follows: online(1), offline(2), testing(3), and faulty(4). The online(1) state indicates that user frames can be passed. See "Port State Descriptions" on page 145. If the port is not installed, returns offline(2).

fcEosPortAdmStatus	INTEGER	R/W	The desired state of the port. A management station may place the port in a desired state by setting this object accordingly. The testing(3) state indicates that no user frames can be passed. As the result of either explicit management action or per configuration information accessible by the switch, fcEosPortAdmStatus is then changed to either the online(1) or testing(3) states, or remains in the offline(2) state. If the port is not installed, returns offline(2).
fcEosPortConnector	INTEGER	R	Supported connector types of the port. The values are defined as follows: unknown(1), lc(2), mt-rj(3), mu(4), and internal-port(5).
fcEosPortDistance	INTEGER (0..127)	R	A bit map to represent distance types of the Port. Bit 0 unknown, bit 1-3 reserved, bit 4 long distance (l), bit 5 intermediate distance (i), bit 6 short distance (s), bit 7 very long distance.
fcEosPortXceiverType	INTEGER	R	Supported transceiver types of the port. The values are defined as follows: unknown (1), longDistance(2) – (LL-V), longWaveLaser-LL(3) – (LL), shortWaveLaser-OFC(4) – (SL), shortWaveLaser-noOFC(5) – (SN), longWaveLaser-LC(6) – (LC).
fcEosPortMedia	INTEGER (0..127)	R	A bit map to represent transmission media of the port. Bit 0 single mode(sm), bit 1 reserved, bit 2 multi-mode 50m (m5), bit 3 multi-mode 62.5 (m6), bit 4-6 reserved, bit 7 copper.
fcEosPortSpeedCap	INTEGER (0..127)	R	A bit map to represent the speed of optical transceiver. Bit 0 100 Mbytes/Sec, bit 1 reserved, bit 2 200 Mbytes/Sec, bit 3 reserved, bit 4 400 Mbytes/Sec, bit 5-7 reserved.

fcEosPortConfigSpeed	INTEGER	R	The configured port speed. The values are defined as follows: one-gig (1), two-gig (2), negotiate (3).
fcEosPortOpSpeed		R	The current operating speed of the port. The values are defined as follows: unknown (1), one-gig (2), two-gig (3), negotiate (4).
fcEosPortConfigType	INTEGER	R/W	The configured port type: gPort (1), fPort (2), ePort (3), flPort (4), Fx_Port (5), gxPort (6)
fcEosPortOpType	INTEGER	R	The operating port type: unknown (1), ePort (2), fPort (3), flPort (4)
fcEosPortALPAIndex	LoopPortALPA	R	The ALPA-Index bit map that identifies the list of ALPAs associated with the FL_port. Only applicable for flPorts.
fcEosPortFAN	TruthValue	R/W	Identifies/configures if the port supports Fabric Address Notification mode. Only applicable for flPorts.
fcEosPortTxWords32	Counter	R	A 32-bit counter for the number of words within frames that the port has transmitted. (Primitive signals and primitive sequence are not included.)
fcEosPortRxWords32	Counter	R	A 32-bit counter for the number of words within frames that the port has received. (Primitive signals and primitive sequence are not included.)
fcEosPortTxFrames32	Counter	R	A 32-bit counter for the number of (Fibre Channel) frames that the port has transmitted.
fcEosPortRxFrames32	Counter	R	A 32-bit counter for the number of (Fibre Channel) frames that the port has received.

fcEosPortTxThroughput	Counter	R	The Bps (bytes per second) transmission rate of the port.
fcEosPortRxThroughput	Counter	R	The Bps (bytes per second) reception rate of the port.
fcEosPortTxC2Words32	Counter	R	A 32-bit counter for the number of class 2 4-byte words that the port has transmitted. (Primitive signals and primitive sequence are not included.)
fcEosPortRxC2Words32	Counter	R	A 32-bit counter for the number of class 2 4-byte words that the port has received. (Primitive signals and primitive sequence are not included.)
fcEosPortTxC2Frames32	Counter	R	A 32-bit counter for the number of Class 2 frames that the port has transmitted.
fcEosPortRxC2Frames32	Counter	R	A 32-bit counter for the number of Class 2 frames that the port has received.
fcEosPortTxC2Octets32	Counter	R	A 32-bit counter for the number of Class 2 Octets that the port has transmitted.
fcEosPortRxC2Octets32	Counter	R	A 32-bit counter for the number of Class 2 Octets that the port has received.
fcEosPortTxC3Words32	Counter	R	A 32-bit counter for the number of class 3 4-byte words that the port has transmitted. (Primitive signals and primitive sequence are not included.)
fcEosPortRxC3Words32	Counter	R	A 32-bit counter for the number of class 3 4-byte words that the port has received. (Primitive signals and primitive sequence are not included.)
fcEosPortTxC3Frames32	Counter	R	A 32-bit counter for the number of Class 3 frames that the port has transmitted.
fcEosPortRxC3Frames32	Counter	R	A 32-bit counter for the number of Class 3 frames that the port has received.
fcEosPortTxC3Octets32	Counter	R	A 32-bit counter for the number of Class 3 Octets that the port has transmitted.
fcEosPortRxC3Octets32	Counter	R	A 32-bit counter for the number of Class 3 Octets that the port has received.
fcEosPortC3Discards32	Counter	R	A 32-bit counter for the number of Class 3 frames that the port has discarded
fcEosPortDiscardFrames	Counter	R	The number of frames that the port has discarded.

fcEosPortTxLinkResets	Counter	R	The number of link resets initiated by this switch port.
fcEosPortRxLinkResets	Counter	R	The number of link resets initiated by the attached N_port.
fcEosPortTxOLSS	Counter	R	The number of offline sequences initiated by this switch port.
fcEosPortRxOLSS	Counter	R	The number of offline sequences initiated by the attached N_port.
fcEosPortSyncLosses	Counter	R	The number of loss of synchronization timeouts.
fcEosPortSigLosses	Counter	R	The number of times that a Loss of Signal is detected.
fcEosPortProtocolErrors	Counter	R	The number of protocol errors detected.
fcEosPortInvalidTxWords	Counter	R	The number of Invalid Transmission words that the port has received.
fcEosPortLinkFailures	Counter	R	The number of transitions to an Lfx state.
fcEosPortCrcs	Counter	R	The number of CRC errors detected from frames received.
fcEosPortTruncs	Counter	R	The number of frames shorter than the Fibre Channel minimum.
fcEosPortTxWords64	OCTET STRING (SIZE 8))	R	A 64-bit counter for the number of words within frames that the port has transmitted. (Primitive signals and primitive sequence are not included.)
fcEosPortRxWords64	OCTET STRING (SIZE 8))	R	A 64-bit counter for the number of words within frames that the port has received. (Primitive signals and primitive sequence are not included.)
fcEosPortTxFrames64	OCTET STRING (SIZE 8))	R	A 64-bit counter for the number of (Fibre Channel) frames that the port has transmitted.
fcEosPortRxFrames64	OCTET STRING (SIZE 8))	R	A 64-bit counter for the number of (Fibre Channel) frames that the port has received.
fcEosPortTxC2Words64	OCTET STRING (SIZE 8))	R	A 64-bit counter for the number of class 2 4-byte words that the port has transmitted. (Primitive signals and primitive sequence are not included.)

fcEosPortRxC2Words64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of class 2 4-byte words that the port has received. (Primitive signals and primitive sequence are not included.)
fcEosPortTxC2Frames64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 2 frames that the port has transmitted.
fcEosPortRxC2Frames64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 2 frames that the port has received.
fcEosPortTxC2Octets64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 2 Octets that the port has transmitted.
fcEosPortRxC2Octets64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 2 Octets that the port has received.
fcEosPortTxC3Words64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of class 3 4-byte words that the port has transmitted. (Primitive signals and primitive sequence are not included.)
fcEosPortRxC3Words64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of class 3 4-byte words that the port has received. (Primitive signals and primitive sequence are not included.)
fcEosPortTxC3Frames64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 3 frames that the port has transmitted.
fcEosPortRxC3Frames64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 3 frames that the port has received.
fcEosPortTxC3Octets64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 3 Octets that the port has transmitted.
fcEosPortRxC3Octets64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 3 Octets that the port has received.
fcEosPortC3Discards64	OCTET STRING (SIZE (8))	R	A 64-bit counter for the number of Class 3 frames that the port has discarded
fcEosPortTxFlows	Counter	R	A 32-bit counter for the number of flows rerouted from this port.

fcEosPortRxFlows	Counter	R	A 32-bit counter for the number of flows rerouted to this port.
fcEosPortLinkEvent	INTEGER	R	The last link event that occurred for this port.
fcEosPortLinkEventTime	DisplayString (SIZE (0..64))	R	The time at which the last link event occurred for this port. If no link event has occurred, this value is 0. The time is expressed as an ASCII string.
fcEosPortName	DisplayString (SIZE (0..64))	R/W	A string describing the addressed port.
fcEosPortWWN	OCTET STRING (SIZE (8))	R	The World Wide Name of the port if applicable, otherwise an empty string.
fcEosPortLinkTrapEnabled	TruthValue	R/W	Indicates whether link event traps are enabled or disabled for this port. The value of this object does not affect the port status change traps.

Port Binding Table

FCEOS MIB Object Name	Type	Access	Description
fcEosPortBindingIndex	fcEosPortIndex	R	The fixed physical port number on the switch. It ranges from 1 to the number of physical ports that can be supported in the switch.
fcEosPortBindingFlag	INTEGER	R/W	Indicates whether or not Port Binding is in effect for an individual port. The values are defined as follows: yes (1), no (2).
fcEosPortConfiguredWWN	fcEosPortWWN	R/W	The authorized port WWN for attached servers and storage systems (F_Ports), or the authorized switch WWN for attached switches (E_Ports).
fcEosPortAttachedWWN	fcEosPortWWN	R	The WWN of the device currently attached to the port, whether it has successfully connected or is currently being rejected due to a Port Binding violation.

Zoning Variables

FCEOS MIB Object Name	Type	Access	Description
fcEosActiveZoneSetName	DisplayString	R	The active zone set name.
fcEosActiveZoneCount	INTEGER	R	The count of zones included in the active zone set.
fcEosDefaultZoneSetState	ZoneSetState	R	The state of the default zone set
fcEosActiveZoneSetState	ZoneSetState	R	The state of the active zone set
fcEosHardwareEnforcedZoning	INTEGER	R	Indicates if zoning is hardware enforced (1=Hardzoning, 0=Nameserver zoning only).

Active Zone Table

FCEOS MIB Object Name	Type	Access	Description
fcEosZoneIndex	INTEGER	R	Zone index number. This number will range from 1 to the number of zones specified by the ActiveZoneCount.
fcEosZoneName	DisplayString	R	The zone name.
fcEosZoneMemberCount	INTEGER	R	The number of members included in the zone.

Active Member Table

FCEOS MIB Object Name	Type	Access	Description
fcEosZoneIndex	DisplayString	R	The index of the zone that this member belongs to.
fcEosMemberIndex	INTEGER	R	Member index number. This number will range from 1 to the number of members specified by the corresponding ZoneMemberCount.
fcEosMemberType	ZoneSetState	R	Indicates the addressing method for this member (1=WWN, 2=Port number).

fcEosMemberWWN	ZoneSetState	R	The WWN name as an 8-character string. This value is only valid if the member type is 1, otherwise it will default to 0.
fcEosMemberDomainID	INTEGER	R	The domain ID. This value is only valid if the member type is 2, otherwise it will default to NULL.
fcEosMemberPortNumber	INTEGER	R	The port number. This value is only valid if the member type is 2, otherwise it will default to NULL.

Threshold Alert Table

FCEOS MIB Object Name	Type	Access	Description
fcEosTAIndex	INTEGER	R	Is used to identify which threshold has been triggered.
fcEosTAName	DisplayString (SIZE(1..64))	R	The threshold alert name.
fcEosTASState	INTEGER	R	The current state of the threshold. (Enabled = 1, disabled = 2)
fcEosTAType	INTEGER	R	The type of the threshold. (throughput = 1, counter = 2)
fcEosTAPortType	INTEGER	R	A threshold can be set on a list of physical port numbers or on all the ports of the specified type (ePorts, fPorts). (list = 1, ePorts = 2, fPorts = 3, flPorts = 4)
fcEosTAPortList	fcEosPortList	R	A bit map that identifies which ports this threshold alert applies to (only valid if the Threshold Alert Port Type = list). The left-most bit represents the port 0.
fcEosTAInterval	INTEGER	R	The number of minutes in a threshold alert interval.
fcEosTATriggerValue	INTEGER	R	If the alert type is a Throughput Threshold Alert, this is the percent utilization (1-100) required to trigger an alert. If the alert type is a Counter Threshold Alert, this is the counter delta required to trigger an alert.

fcEosTTADirection	INTEGER	R	Only applies when the alert type is a Throughput Threshold Alert. It specifies the throughput direction of the threshold. (Transmit = 1, receive = 2, either = 3)
fcEosTTATriggerDuration	INTEGER	R	Only applies when the alert type is a Throughput Threshold Alert. It specifies the amount of time during a threshold alert interval that the trigger must be exceeded before an alert is generated.
fcEosCTACounter	INTEGER	R	Only applies when the alert type is a Counter Threshold Alert. It specifies statistical counter or counter set to be monitored. (This object is not supported in the current release.)

Enterprise Specific Traps

FCEOS MIB Object Name	Type Number	Product Mapping	OID and Value	Description
fcEosPortScn	1	Generated when Fibre Channel port operational state changes.	fcEosPortOpStat us	An fcEosPortScn(1) is generated whenever an Fc_Port changes its operational state. For instance, the Fc_Port goes from online to offline.
fcEosFruScn	2	Generated when a FRU operational state changes.	fcEosFruStatus	An fcEosFruScn(2) is generated whenever a FRU status changes its operational state.
fcEosPortBindingViolation	3	Generated when Port binding violation occurs.	fcEosPortAttachedWWN	An fcEosPortBindingViolation(3) is generated whenever the switch detects that a port binding violation occurs.
fcEosThresholdAlert	4	Generated when Threshold alert occurs.	fcEosPortIndex, fcEosTAIndex	An fcEosThresholdAlert(4) is generated whenever a threshold alert occurs.

fcEosFruRemoved	5	Generated when a FRU is removed or its status changes to unknown.	fcEosFruCode, fcEosFruPosition, fcEosSysSwitchName, fcEosSysSwitchId	An fcEosFruRemoved trap is generated when a FRU is removed or its status changes to unknown
fcEosFruActive	6	Generated when a FRU status changes to an active status.	fcEosFruCode, fcEosFruPosition, fcEosSysSwitchName, fcEosSysSwitchId	An fcEosFruActive trap is generated when a FRU status changes to an active status.
fcEosFruBackup	7	Generated when a FRU status changes to a backup status.	fcEosFruCode, fcEosFruPosition, fcEosSysSwitchName, fcEosSysSwitchId	An fcEosFruBackup trap is generated when a FRU status changes to a backup status.
fcEosFruUpdate	8	Generated when a FRU status changes to update/busy.	fcEosFruCode, fcEosFruPosition, fcEosSysSwitchName, fcEosSysSwitchId	An fcEosFruFailed trap is generated when a FRU status changes to update/busy.
fcEosFruFailed	9	Generated when a FRU status changes to a failed status.	fcEosFruCode, fcEosFruPosition, fcEosSysSwitchName, fcEosSysSwitchId	An fcEosFruFailed trap is generated when a FRU status changes to a failed status.
fcEosLinkBitErrorEvent	10	Generated when the bit error rate for a link exceeds the threshold.	fcEosPort Index, fcEosPortName, fcEosPort WWN, fcEosSysSwitchName	An fcEosLinkBit trap is generated when the bit error rate for a link exceeds an allowed threshold.
fcEosLinkNoSignalEvent	11	Generated when there is a loss of signal or sync.	fcEosPortIndex, fcEosPortName, fcEosPortWWN, fcEosSysSwitchName	An fcEosLinkNoSignalEvent trap is generated when there is a loss of signal or sync.
fcEosLinkNOSEvent	12	Generated when a not operational primitive sequence is received.	fcEosPortIndex, fcEosPortName, fcEosPortWWN, fcEosSysSwitchName	An fcEosLinkNOSEvent trap is generated when a not operational primitive sequence is received.

fcEosLinkFailureEvent	13	Generated when a primitive sequence timeout occurs.	fcEosPortIndex, fcEosPortName, fcEosPortWWN, fcEosSysSwitchName	An fcEosLinkFailureEvent trap is generated when a primitive sequence timeout occurs.
fcEosLinkInvalidEvent	14	Generated when an invalid primitive sequence is detected.	fcEosPortIndex, fcEosPortName, fcEosPortWWN, fcEosSysSwitchName	An fcEosLinkInvalidEvent trap is generated when an invalid primitive sequence is detected.
fcEosLinkAddedEvent	15	Generated when the firmware detects that a new connection has been established on a port.	fcEosPortIndex, fcEosPortName, fcEosPortWWN, fcEosSysSwitchName	An fcEosLinkAddedEvent trap is generated when the firmware detects that a new connection has been established on a port.

Port State Descriptions

FCEOS, Fibre Alliance M3.1.

The alert symbol is displayed on the corresponding port card in the Hardware View, next to the specific port in the Port Card Detailed View, and in the Alert column of the Port List View. It indicates that a corrective action is required to return the port back to a normal operating state.

The FibreAlliance MIB `connUnitPortStates` are numbered as follows:
(1)unknown, (2)online, (3)offline, and (4)bypassed.

The FibreAlliance MIB `connUnitPortStatus` are numbered as follows:
(1)unknown, (2)unused, (3)ok, (4)warning, (5)failure, (6)notparticipating, (7)initializing, and (8)bypassed.

The FibreAlliance `connUnitPortHWStates` are numbered as follows: (1)unknown, (2)failed, (3)bypassed, (4)active, (5)loopback, (6)txfault, (7)noMedia, and (8)linkDown

The FE MIB `fcFxpPortPhysOperStatus` are numbered as follows: (1)online, (2)offline, (3)testing, and (4)link-failure.

PortStatus Used internally by HAFM	Displayed in HAFM		FibreAlliance MIB**			FE MIB***	Port LED's		Description
	Port State	Alert Symbol *	connU nitPort State	connU nitPort Status	connU nitPort HWSta te	fcFxpPort PhysOp erStatus	G r e e n	A m b e r	
STAT_NOT _INSTALLED	Not Installed		unkno wn(1)	unkno wn(1)	unkno wn(1)	No table entry			Port card not installed.

STAT_LINK_FAIL_IOL	No Light		offline(3)	unused(2)	noMedia(7)	offline(2)			No signal (light) is being received on the Director port. This is a normal condition when there is no cable plugged into the port, or when the device attached to the other end of the cable is powered down.
STAT_AVAILABLE	Online		online(2)	ok(3)	active(4)	online(1)	On		The attached device has successfully connected to the Director and is ready to communicate, or is in the process of communicating, with other attached devices. As long as the port remains in the online state, the green port LED remains illuminated or blinks when there is traffic.

STAT_BLOCKED	Offline		offline(3)	ok(3)	active(4)	offline(2)			The Director port has been configured as "Blocked" and is transmitting the Fibre Channel Offline Sequence (OLS) to the attached device.
STAT_UNAVAILABLE	Offline	Yellow Triangle	online(2)	ok(3)	active(4)	online(1)			The Director port has been configured as "Unblocked" and is receiving the Fibre Channel Offline Sequence (OLS) indicating that the attached device is offline.
STAT_INTERNAL_DIAGS STAT_EXTERNAL_LOOP	Testing	Yellow Triangle	online(2)	ok(3)	loopback(5)	testing(3)		Blink	The port is currently executing a diagnostic test. The amber port LED blinks once every two seconds for the duration of the test.

STAT_LINK_RESET	Link Reset	Yellow Triangle	online(2)	initializing(7)	active(4)	online(1)			The Director and the attached device are performing a link reset operation to recover the link connection. Ordinarily, this is a transient state that should not persist.
STAT_LINK_FAILURE	Not Operational	Yellow Triangle	online(2)	initializing(7)	active(4)	online(1)			The Director port is receiving the Fibre Channel Not Operational Sequence (NOS) indicating that the attached device is not operational.
PortStatus.isInvalidAttachment()	Invalid Attachment	Yellow Triangle	online(2)	warning(4)	active(4)	online(1)	On		The Director port is in an invalid attachment state due to an improper connection. A reason code will accompany this state.

STAT_SERVICE_REQUIRED STAT_PORT_FAIL	Port Failure	Red Diamond	online(2)	failure(5)	failed(2)	link-failure(4)		On	The Director port has failed and requires service. The amber LED for the port remains illuminated.
STAT_INACCESSIBLE	N/A – port will never display in HAFM	N/A – port will never display in HAFM	No table entry	No table entry	No table entry	No table entry			An inaccessible port state pertains to ports that cannot be installed or removed as discrete entities, and do not indicate any port state other than inaccessible. An example of this is ports 128-131 on a Director 2/140, which are reserved for the embedded ports for the primary and backup CTP's.

STAT_INACTIVE	Inactive	Yellow Triangle	offline(3)	warning(4)	active(4)	offline(2)			The "Inactive Port State" signifies a port is not able to come online due to a configuration conflict (either software or hardware) on the switch. The intention of the "Inactive" port state is to provide user notification when a configuration conflict is preventing a port from coming online. One of the reasons for this state is an unlicensed port.
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Protocol Definition

The FCEOS SNMP agent supports the SNMPv1 protocol and data formats as defined in RFCs 1157 and 1155, respectively. The SNMPv2C protocol is not supported.

MIB Objects Sorted by OID



This appendix contains a list of all MIBs used in mib2.mib, sfw.mib, fcfe.mib, fceos.mib, and fa.mib, sorted by OID.

0	ccitt	NODE
0.0	zeroDotZero	NODE
1	iso	NODE
1.3	org	NODE
1.3.6	dod	NODE
1.3.6.1	internet	NODE
1.3.6.1.1	directory	NODE
1.3.6.1.2	mgmt	NODE
1.3.6.1.2.1	mib-2	NODE
1.3.6.1.2.1.1	system	NODE
1.3.6.1.2.1.1.1	sysDescr	LEAF DisplayString
1.3.6.1.2.1.1.2	sysObjectID	LEAF OBJECT IDENTIFIER
1.3.6.1.2.1.1.3	sysUpTime	LEAF TimeTicks
1.3.6.1.2.1.1.4	sysContact	LEAF DisplayString
1.3.6.1.2.1.1.5	sysName	LEAF DisplayString
1.3.6.1.2.1.1.6	sysLocation	LEAF DisplayString
1.3.6.1.2.1.1.7	sysServices	LEAF INTEGER
1.3.6.1.2.1.2	interfaces	NODE
1.3.6.1.2.1.2.1	ifNumber	LEAF INTEGER
1.3.6.1.2.1.2.2	ifTable	NODE
1.3.6.1.2.1.2.2.1	ifEntry	NODE
1.3.6.1.2.1.2.2.1.1	ifIndex	LEAF INTEGER

1.3.6.1.2.1.2.2.1.2	ifDescr	LEAF DisplayString
1.3.6.1.2.1.2.2.1.3	ifType	LEAF INTEGER
1.3.6.1.2.1.2.2.1.4	ifMtu	LEAF INTEGER
1.3.6.1.2.1.2.2.1.5	ifSpeed	LEAF Gauge
1.3.6.1.2.1.2.2.1.6	ifPhysAddress	LEAF PhysAddress
1.3.6.1.2.1.2.2.1.7	ifAdminStatus	LEAF INTEGER
1.3.6.1.2.1.2.2.1.8	ifOperStatus	LEAF INTEGER
1.3.6.1.2.1.2.2.1.9	ifLastChange	LEAF TimeTicks
1.3.6.1.2.1.2.2.1.10	ifInOctets	LEAF Counter
1.3.6.1.2.1.2.2.1.11	ifInUcastPkts	LEAF Counter
1.3.6.1.2.1.2.2.1.12	ifInNUcastPkts	LEAF Counter
1.3.6.1.2.1.2.2.1.13	ifInDiscards	LEAF Counter
1.3.6.1.2.1.2.2.1.14	ifInErrors	LEAF Counter
1.3.6.1.2.1.2.2.1.15	ifInUnknownProtos	LEAF Counter
1.3.6.1.2.1.2.2.1.16	ifOutOctets	LEAF Counter
1.3.6.1.2.1.2.2.1.17	ifOutUcastPkts	LEAF Counter
1.3.6.1.2.1.2.2.1.18	ifOutNUcastPkts	LEAF Counter
1.3.6.1.2.1.2.2.1.19	ifOutDiscards	LEAF Counter
1.3.6.1.2.1.2.2.1.20	ifOutErrors	LEAF Counter
1.3.6.1.2.1.2.2.1.21	ifOutQLen	LEAF Gauge
1.3.6.1.2.1.2.2.1.22	ifSpecific	LEAF OBJECT IDENTIFIER
1.3.6.1.2.1.3	at	NODE
1.3.6.1.2.1.3.1	atTable	NODE
1.3.6.1.2.1.3.1.1	atEntry	NODE
1.3.6.1.2.1.3.1.1.1	atIfIndex	LEAF INTEGER
1.3.6.1.2.1.3.1.1.2	atPhysAddress	LEAF PhysAddress
1.3.6.1.2.1.3.1.1.3	atNetAddress	LEAF NetworkAddress
1.3.6.1.2.1.4	ip	NODE
1.3.6.1.2.1.4.1	ipForwarding	LEAF INTEGER
1.3.6.1.2.1.4.2	ipDefaultTTL	LEAF INTEGER
1.3.6.1.2.1.4.3	ipInReceives	LEAF Counter

1.3.6.1.2.1.4.4	ipInHdrErrors	LEAF Counter
1.3.6.1.2.1.4.5	ipInAddrErrors	LEAF Counter
1.3.6.1.2.1.4.6	ipForwDatagrams	LEAF Counter
1.3.6.1.2.1.4.7	ipInUnknownProtos	LEAF Counter
1.3.6.1.2.1.4.8	ipInDiscards	LEAF Counter
1.3.6.1.2.1.4.9	ipInDelivers	LEAF Counter
1.3.6.1.2.1.4.10	ipOutRequests	LEAF Counter
1.3.6.1.2.1.4.11	ipOutDiscards	LEAF Counter
1.3.6.1.2.1.4.12	ipOutNoRoutes	LEAF Counter
1.3.6.1.2.1.4.13	ipReasmTimeout	LEAF INTEGER
1.3.6.1.2.1.4.14	ipReasmReqds	LEAF Counter
1.3.6.1.2.1.4.15	ipReasmOKs	LEAF Counter
1.3.6.1.2.1.4.16	ipReasmFails	LEAF Counter
1.3.6.1.2.1.4.17	ipFragOKs	LEAF Counter
1.3.6.1.2.1.4.18	ipFragFails	LEAF Counter
1.3.6.1.2.1.4.19	ipFragCreates	LEAF Counter
1.3.6.1.2.1.4.20	ipAddrTable	NODE
1.3.6.1.2.1.4.20.1	ipAddrEntry	NODE
1.3.6.1.2.1.4.20.1.1	ipAdEntAddr	LEAF IpAddress
1.3.6.1.2.1.4.20.1.2	ipAdEntIfIndex	LEAF INTEGER
1.3.6.1.2.1.4.20.1.3	ipAdEntNetMask	LEAF IpAddress
1.3.6.1.2.1.4.20.1.4	ipAdEntBcastAddr	LEAF INTEGER
1.3.6.1.2.1.4.20.1.5	ipAdEntReasmMaxSize	LEAF INTEGER
1.3.6.1.2.1.4.21	ipRouteTable	NODE
1.3.6.1.2.1.4.21.1	ipRouteEntry	NODE
1.3.6.1.2.1.4.21.1.1	ipRouteDest	LEAF IpAddress
1.3.6.1.2.1.4.21.1.2	ipRouteIfIndex	LEAF INTEGER
1.3.6.1.2.1.4.21.1.3	ipRouteMetric1	LEAF INTEGER
1.3.6.1.2.1.4.21.1.4	ipRouteMetric2	LEAF INTEGER
1.3.6.1.2.1.4.21.1.5	ipRouteMetric3	LEAF INTEGER
1.3.6.1.2.1.4.21.1.6	ipRouteMetric4	LEAF INTEGER

1.3.6.1.2.1.4.21.1.7	ipRouteNextHop	LEAF IpAddress
1.3.6.1.2.1.4.21.1.8	ipRouteType	LEAF INTEGER
1.3.6.1.2.1.4.21.1.9	ipRouteProto	LEAF INTEGER
1.3.6.1.2.1.4.21.1.10	ipRouteAge	LEAF INTEGER
1.3.6.1.2.1.4.21.1.11	ipRouteMask	LEAF IpAddress
1.3.6.1.2.1.4.21.1.12	ipRouteMetric5	LEAF INTEGER
1.3.6.1.2.1.4.21.1.13	ipRouteInfo	LEAF OBJECT IDENTIFIER
1.3.6.1.2.1.4.22	ipNetToMediaTable	NODE
1.3.6.1.2.1.4.22.1	ipNetToMediaEntry	NODE
1.3.6.1.2.1.4.22.1.1	ipNetToMediaIfIndex	LEAF INTEGER
1.3.6.1.2.1.4.22.1.2	ipNetToMediaPhysAddress	LEAF PhysAddress
1.3.6.1.2.1.4.22.1.3	ipNetToMediaNetAddress	LEAF IpAddress
1.3.6.1.2.1.4.22.1.4	ipNetToMediaType	LEAF INTEGER
1.3.6.1.2.1.4.23	ipRoutingDiscards	LEAF Counter
1.3.6.1.2.1.5	icmp	NODE
1.3.6.1.2.1.5.1	icmpInMsgs	LEAF Counter
1.3.6.1.2.1.5.2	icmpInErrors	LEAF Counter
1.3.6.1.2.1.5.3	icmpInDestUnreachs	LEAF Counter
1.3.6.1.2.1.5.4	icmpInTimeExcds	LEAF Counter
1.3.6.1.2.1.5.5	icmpInParmProbs	LEAF Counter
1.3.6.1.2.1.5.6	icmpInSrcQuenchs	LEAF Counter
1.3.6.1.2.1.5.7	icmpInRedirects	LEAF Counter
1.3.6.1.2.1.5.8	icmpInEchos	LEAF Counter
1.3.6.1.2.1.5.9	icmpInEchoReps	LEAF Counter
1.3.6.1.2.1.5.10	icmpInTimestamps	LEAF Counter
1.3.6.1.2.1.5.11	icmpInTimestampReps	LEAF Counter
1.3.6.1.2.1.5.12	icmpInAddrMasks	LEAF Counter
1.3.6.1.2.1.5.13	icmpInAddrMaskReps	LEAF Counter
1.3.6.1.2.1.5.14	icmpOutMsgs	LEAF Counter
1.3.6.1.2.1.5.15	icmpOutErrors	LEAF Counter
1.3.6.1.2.1.5.16	icmpOutDestUnreachs	LEAF Counter

1.3.6.1.2.1.5.17	icmpOutTimeExcds	LEAF Counter
1.3.6.1.2.1.5.18	icmpOutParmProbs	LEAF Counter
1.3.6.1.2.1.5.19	icmpOutSrcQuenchs	LEAF Counter
1.3.6.1.2.1.5.20	icmpOutRedirects	LEAF Counter
1.3.6.1.2.1.5.21	icmpOutEchos	LEAF Counter
1.3.6.1.2.1.5.22	icmpOutEchoReps	LEAF Counter
1.3.6.1.2.1.5.23	icmpOutTimestamps	LEAF Counter
1.3.6.1.2.1.5.24	icmpOutTimestampReps	LEAF Counter
1.3.6.1.2.1.5.25	icmpOutAddrMasks	LEAF Counter
1.3.6.1.2.1.5.26	icmpOutAddrMaskReps	LEAF Counter
1.3.6.1.2.1.6	tcp	NODE
1.3.6.1.2.1.6.1	tcpRtoAlgorithm	LEAF INTEGER
1.3.6.1.2.1.6.2	tcpRtoMin	LEAF INTEGER
1.3.6.1.2.1.6.3	tcpRtoMax	LEAF INTEGER
1.3.6.1.2.1.6.4	tcpMaxConn	LEAF INTEGER
1.3.6.1.2.1.6.5	tcpActiveOpens	LEAF Counter
1.3.6.1.2.1.6.6	tcpPassiveOpens	LEAF Counter
1.3.6.1.2.1.6.7	tcpAttemptFails	LEAF Counter
1.3.6.1.2.1.6.8	tcpEstabResets	LEAF Counter
1.3.6.1.2.1.6.9	tcpCurrEstab	LEAF Gauge
1.3.6.1.2.1.6.10	tcpInSegs	LEAF Counter
1.3.6.1.2.1.6.11	tcpOutSegs	LEAF Counter
1.3.6.1.2.1.6.12	tcpRetransSegs	LEAF Counter
1.3.6.1.2.1.6.13	tcpConnTable	NODE
1.3.6.1.2.1.6.13.1	tcpConnEntry	NODE
1.3.6.1.2.1.6.13.1.1	tcpConnState	LEAF INTEGER
1.3.6.1.2.1.6.13.1.2	tcpConnLocalAddress	LEAF IpAddress
1.3.6.1.2.1.6.13.1.3	tcpConnLocalPort	LEAF INTEGER
1.3.6.1.2.1.6.13.1.4	tcpConnRemAddress	LEAF IpAddress
1.3.6.1.2.1.6.13.1.5	tcpConnRemPort	LEAF INTEGER
1.3.6.1.2.1.6.14	tcpInErrs	LEAF Counter

1.3.6.1.2.1.6.15	tcpOutRsts	LEAF Counter
1.3.6.1.2.1.7	udp	NODE
1.3.6.1.2.1.7.1	udpInDatagrams	LEAF Counter
1.3.6.1.2.1.7.2	udpNoPorts	LEAF Counter
1.3.6.1.2.1.7.3	udpInErrors	LEAF Counter
1.3.6.1.2.1.7.4	udpOutDatagrams	LEAF Counter
1.3.6.1.2.1.7.5	udpTable	NODE
1.3.6.1.2.1.7.5.1	udpEntry	NODE
1.3.6.1.2.1.7.5.1.1	udpLocalAddress	LEAF IpAddress
1.3.6.1.2.1.7.5.1.2	udpLocalPort	LEAF INTEGER
1.3.6.1.2.1.8	egp	NODE
1.3.6.1.2.1.10	transmission	NODE
1.3.6.1.2.1.11	snmp	NODE
1.3.6.1.2.1.11.1	snmplnPks	LEAF Counter
1.3.6.1.2.1.11.2	snmpOutPkts	LEAF Counter
1.3.6.1.2.1.11.3	snmplnBadVersions	LEAF Counter
1.3.6.1.2.1.11.4	snmplnBadCommunityNames	LEAF Counter
1.3.6.1.2.1.11.5	snmplnBadCommunityUses	LEAF Counter
1.3.6.1.2.1.11.6	snmplnASNParseErrs	LEAF Counter
1.3.6.1.2.1.11.8	snmplnTooBigs	LEAF Counter
1.3.6.1.2.1.11.9	snmplnNoSuchNames	LEAF Counter
1.3.6.1.2.1.11.10	snmplnBadValues	LEAF Counter
1.3.6.1.2.1.11.11	snmplnReadOnlyS	LEAF Counter
1.3.6.1.2.1.11.12	snmplnGenErrs	LEAF Counter
1.3.6.1.2.1.11.13	snmplnTotalReqVars	LEAF Counter
1.3.6.1.2.1.11.14	snmplnTotalSetVars	LEAF Counter
1.3.6.1.2.1.11.15	snmplnGetRequests	LEAF Counter
1.3.6.1.2.1.11.16	snmplnGetNexts	LEAF Counter
1.3.6.1.2.1.11.17	snmplnSetRequests	LEAF Counter
1.3.6.1.2.1.11.18	snmplnGetResponses	LEAF Counter
1.3.6.1.2.1.11.19	snmplnTraps	LEAF Counter

1.3.6.1.2.1.11.20	snmpOutTooBigs	LEAF Counter
1.3.6.1.2.1.11.21	snmpOutNoSuchNames	LEAF Counter
1.3.6.1.2.1.11.22	snmpOutBadValues	LEAF Counter
1.3.6.1.2.1.11.24	snmpOutGenErrs	LEAF Counter
1.3.6.1.2.1.11.25	snmpOutGetRequests	LEAF Counter
1.3.6.1.2.1.11.26	snmpOutGetNexts	LEAF Counter
1.3.6.1.2.1.11.27	snmpOutSetRequests	LEAF Counter
1.3.6.1.2.1.11.28	snmpOutGetResponses	LEAF Counter
1.3.6.1.2.1.11.29	snmpOutTraps	LEAF Counter
1.3.6.1.2.1.11.30	snmpEnableAuthenTraps	LEAF INTEGER
1.3.6.1.2.1.8888	fcMgmtMIB	NODE
1.3.6.1.2.1.8888.0	fcMgmtNotifications	NODE
1.3.6.1.2.1.8888.0.1	fcConnUnitStatusChange	NODE
1.3.6.1.2.1.8888.0.2	fcConnUnitDeletedTrap	NODE
1.3.6.1.2.1.8888.0.3	fcConnUnitEventTrap	NODE
1.3.6.1.2.1.8888.0.4	fcConnUnitSensorStatusChange	NODE
1.3.6.1.2.1.8888.0.5	fcConnUnitPortStatusChange	NODE
1.3.6.1.2.1.8888.1	fcMgmtObjects	NODE
1.3.6.1.2.1.8888.1.1	fcMgmtConfig	NODE
1.3.6.1.2.1.8888.1.1.1	fcConnUnitNumber	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.2	fcConnURL	LEAF DisplayString
1.3.6.1.2.1.8888.1.1.3	fcConnUnitTable	NODE
1.3.6.1.2.1.8888.1.1.3.1	fcConnUnitEntry	NODE
1.3.6.1.2.1.8888.1.1.3.1.1	fcConnUnitId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.3.1.2	fcConnUnitGlobalId	LEAF FcGlobalId
1.3.6.1.2.1.8888.1.1.3.1.3	fcConnUnitType	LEAF FcUnitType
1.3.6.1.2.1.8888.1.1.3.1.4	fcConnUnitNumPorts	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.5	fcConnUnitState	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.6	fcConnUnitStatus	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.7	fcConnUnitProduct	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.8	fcConnUnitSerialNo	LEAF SnmpAdminString

1.3.6.1.2.1.8888.1.1.3.1.9	fcConnUnitUpTime	LEAF TimeTicks
1.3.6.1.2.1.8888.1.1.3.1.10	fcConnUnitUrl	LEAF DisplayString
1.3.6.1.2.1.8888.1.1.3.1.11	fcConnUnitDomainId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.3.1.12	fcConnUnitProxyMaster	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.13	fcConnUnitPrincipal	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.14	fcConnUnitNumSensors	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.15	fcConnUnitNumRevs	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.16	fcConnUnitModuleId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.3.1.17	fcConnUnitName	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.18	fcConnUnitInfo	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.19	fcConnUnitControl	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.20	fcConnUnitContact	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.21	fcConnUnitLocation	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.22	fcConnUnitEventFilter	LEAF FcEventSeverity
1.3.6.1.2.1.8888.1.1.3.1.23	fcConnUnitNumEvents	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.24	fcConnUnitMaxEvents	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.25	fcConnUnitEventCurrID	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.4	fcConnUnitRevsTable	NODE
1.3.6.1.2.1.8888.1.1.4.1	fcConnUnitRevsEntry	NODE
1.3.6.1.2.1.8888.1.1.4.1.1	fcConnUnitRevsIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.4.1.2	fcConnUnitRevsRevision	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.4.1.3	fcConnUnitRevsDescription	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.5	fcConnUnitSensorTable	NODE
1.3.6.1.2.1.8888.1.1.5.1	fcConnUnitSensorEntry	NODE
1.3.6.1.2.1.8888.1.1.5.1.1	fcConnUnitSensorIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.5.1.2	fcConnUnitSensorName	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.5.1.3	fcConnUnitSensorStatus	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.5.1.4	fcConnUnitSensorInfo	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.5.1.5	fcConnUnitSensorMessage	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.5.1.6	fcConnUnitSensorType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.5.1.7	fcConnUnitSensorCharacteristic	LEAF INTEGER

1.3.6.1.2.1.8888.1.1.6	fcConnUnitPortTable	NODE
1.3.6.1.2.1.8888.1.1.6.1	fcConnUnitPortEntry	NODE
1.3.6.1.2.1.8888.1.1.6.1.1	fcConnUnitPortIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.6.1.2	fcConnUnitPortType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.3	fcConnUnitPortFCClassCap	LEAF FcPortFCClass
1.3.6.1.2.1.8888.1.1.6.1.4	fcConnUnitPortFCClassOp	LEAF FcPortFCClass
1.3.6.1.2.1.8888.1.1.6.1.5	fcConnUnitPortState	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.6	fcConnUnitPortStatus	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.7	fcConnUnitPortTransmitterType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.8	fcConnUnitPortModuleType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.9	fcConnUnitPortWwn	LEAF FcNameId
1.3.6.1.2.1.8888.1.1.6.1.10	fcConnUnitPortFCId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.6.1.11	fcConnUnitPortSerialNo	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.12	fcConnUnitPortRevision	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.13	fcConnUnitPortVendor	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.14	fcConnUnitPortSpeed	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.6.1.15	fcConnUnitPortControl	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.16	fcConnUnitPortName	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.17	fcConnUnitPortPhysicalNumber	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.6.1.18	fcConnUnitPortProtocolCap	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.6.1.19	fcConnUnitPortProtocolOp	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.6.1.20	fcConnUnitPortNodeWwn	LEAF FcNameId
1.3.6.1.2.1.8888.1.1.6.1.21	fcConnUnitPortHWState	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.7	fcConnUnitEventTable	NODE
1.3.6.1.2.1.8888.1.1.7.1	fcConnUnitEventEntry	NODE
1.3.6.1.2.1.8888.1.1.7.1.1	fcConnUnitEventIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.7.1.2	fcConnUnitREventTime	LEAF DisplayString
1.3.6.1.2.1.8888.1.1.7.1.3	fcConnUnitSEventTime	LEAF TimeTicks
1.3.6.1.2.1.8888.1.1.7.1.4	fcConnUnitEventSeverity	LEAF FcEventSeverity
1.3.6.1.2.1.8888.1.1.7.1.5	fcConnUnitEventType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.7.1.6	fcConnUnitEventObject	LEAF OBJECT IDENTIFIER

1.3.6.1.2.1.8888.1.1.7.1.7	fcConnUnitEventDescr	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.8	fcConnUnitLinkTable	NODE
1.3.6.1.2.1.8888.1.1.8.1	fcConnUnitLinkEntry	NODE
1.3.6.1.2.1.8888.1.1.8.1.1	fcConnUnitLinkIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.8.1.2	fcConnUnitLinkNodeIdx	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.3	fcConnUnitLinkPortNumberX	LEAF Integer32
1.3.6.1.2.1.8888.1.1.8.1.4	fcConnUnitLinkPortWwnX	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.5	fcConnUnitLinkNodeIdxY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.6	fcConnUnitLinkPortNumberY	LEAF Integer32
1.3.6.1.2.1.8888.1.1.8.1.7	fcConnUnitLinkPortWwnY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.8	fcConnUnitLinkAgentAddressY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.9	fcConnUnitLinkAgentAddressTypeY	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.8.1.10	fcConnUnitLinkAgentPortY	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.8.1.11	fcConnUnitLinkUnitTypeY	LEAF FcUnitType
1.3.6.1.2.1.8888.1.1.8.1.12	fcConnUnitLinkConnIdY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.9	fcConnUnitSnsMaxRows	LEAF Counter32
1.3.6.1.2.1.8888.1.2	fcMgmtNotifyFilter	NODE
1.3.6.1.2.1.8888.1.2.1	fcTrapMaxClients	LEAF Unsigned32
1.3.6.1.2.1.8888.1.2.2	fcTrapClientCount	LEAF Unsigned32
1.3.6.1.2.1.8888.1.2.3	fcTrapRegTable	NODE
1.3.6.1.2.1.8888.1.2.3.1	fcTrapRegEntry	NODE
1.3.6.1.2.1.8888.1.2.3.1.1	fcTrapRegIpAddress	LEAF IpAddress
1.3.6.1.2.1.8888.1.2.3.1.2	fcTrapRegPort	LEAF Unsigned32
1.3.6.1.2.1.8888.1.2.3.1.3	fcTrapRegFilter	LEAF FcEventSeverity
1.3.6.1.2.1.8888.1.2.3.1.4	fcTrapRegRowState	LEAF RowStatus
1.3.6.1.2.1.8888.1.3	fcMgmtStatistics	NODE
1.3.6.1.2.1.8888.1.3.1	fcConnUnitPortStatTable	NODE
1.3.6.1.2.1.8888.1.3.1.1	fcConnUnitPortStatEntry	NODE
1.3.6.1.2.1.8888.1.3.1.1.1	fcConnUnitPortStatIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.3.1.1.2	fcConnUnitPortStatErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.3	fcConnUnitPortStatTxObjects	LEAF Counter64

1.3.6.1.2.1.8888.1.3.1.1.4	fcConnUnitPortStatRxObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.5	fcConnUnitPortStatTxElements	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.6	fcConnUnitPortStatRxElements	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.7	fcConnUnitPortStatBBCreditZero	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.8	fcConnUnitPortStatInputBufsFull	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.9	fcConnUnitPortStatFBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.10	fcConnUnitPortStatPBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.11	fcConnUnitPortStatFRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.12	fcConnUnitPortStatPRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.13	fcConnUnitPortStatC1RxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.14	fcConnUnitPortStatC1TxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.15	fcConnUnitPortStatC1FBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.16	fcConnUnitPortStatC1PBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.17	fcConnUnitPortStatC1FRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.18	fcConnUnitPortStatC1PRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.19	fcConnUnitPortStatC2RxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.20	fcConnUnitPortStatC2TxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.21	fcConnUnitPortStatC2FBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.22	fcConnUnitPortStatC2PBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.23	fcConnUnitPortStatC2FRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.24	fcConnUnitPortStatC2PRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.25	fcConnUnitPortStatC3RxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.26	fcConnUnitPortStatC3TxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.27	fcConnUnitPortStatC3Discards	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.28	fcConnUnitPortStatRxMcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.29	fcConnUnitPortStatTxMcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.30	fcConnUnitPortStatRxBcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.31	fcConnUnitPortStatTxBcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.32	fcConnUnitPortStatRxLinkResets	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.33	fcConnUnitPortStatTxLinkResets	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.34	fcConnUnitPortStatLinkResets	LEAF Counter64

1.3.6.1.2.1.8888.1.3.1.1.35	fcConnUnitPortStatRxOfflineSeqs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.36	fcConnUnitPortStatTxOfflineSeqs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.37	fcConnUnitPortStatOfflineSeqs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.38	fcConnUnitPortStatLinkFailures	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.39	fcConnUnitPortStatInvalidCRC	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.40	fcConnUnitPortStatInvalidTxWords	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.41	fcConnUnitPortStatPSPErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.42	fcConnUnitPortStatLossOfSignal	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.43	fcConnUnitPortStatLossOfSync	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.44	fcConnUnitPortStatInvOrderedSets	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.45	fcConnUnitPortStatFramesTooLong	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.46	fcConnUnitPortStatFramesTooShort	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.47	fcConnUnitPortStatAddressErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.48	fcConnUnitPortStatDelimiterErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.49	fcConnUnitPortStatEncodingErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.4	fcMgmtSNS	NODE
1.3.6.1.2.1.8888.1.4.1	fcConnUnitSnsTable	NODE
1.3.6.1.2.1.8888.1.4.1.1	fcConnUnitSnsEntry	NODE
1.3.6.1.2.1.8888.1.4.1.1.1	fcConnUnitSnsPortIndex	LEAF Counter32
1.3.6.1.2.1.8888.1.4.1.1.2	fcConnUnitSnsPortIdentifier	LEAF FcGlobalId
1.3.6.1.2.1.8888.1.4.1.1.3	fcConnUnitSnsPortName	LEAF FcNameId
1.3.6.1.2.1.8888.1.4.1.1.4	fcConnUnitSnsNodeName	LEAF FcNameId
1.3.6.1.2.1.8888.1.4.1.1.5	fcConnUnitSnsClassOfSvc	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.6	fcConnUnitSnsNodeIPAddress	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.7	fcConnUnitSnsProcAssoc	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.8	fcConnUnitSnsFC4Type	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.9	fcConnUnitSnsPortType	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.10	fcConnUnitSnsPortIPAddress	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.11	fcConnUnitSnsFabricPortName	LEAF FcNameId
1.3.6.1.2.1.8888.1.4.1.1.12	fcConnUnitSnsHardAddress	LEAF FcGlobalId
1.3.6.1.2.1.8888.1.4.1.1.13	fcConnUnitSnsSymbolicPortName	LEAF DisplayString

1.3.6.1.2.1.8888.1.4.1.1.14	fcConnUnitSnsSymbolicNodeName	LEAF DisplayString
1.3.6.1.2.1.8888.2	fcMgmtConformance	NODE
1.3.6.1.2.1.8888.2.1	fcMgmtCompliances	NODE
1.3.6.1.2.1.8888.2.1.1	fcMgmtCompliance	NODE
1.3.6.1.2.1.8888.2.2	fcMgmtGroups	NODE
1.3.6.1.2.1.8888.2.2.1	fcConnUnitGroup	NODE
1.3.6.1.2.1.8888.2.2.2	fcCuEventGroup	NODE
1.3.6.1.2.1.8888.2.2.3	fcCuLinkGroup	NODE
1.3.6.1.2.1.8888.2.2.4	fcCuPortStatsGroup	NODE
1.3.6.1.2.1.8888.2.2.5	fcCuSNSGroup	NODE
1.3.6.1.2.1.8888.2.2.6	fcCuTrapFiltersGroup	NODE
1.3.6.1.2.1.8888.2.2.7	fcCuNotificationsGroup	NODE
1.3.6.1.3	experimental	NODE
1.3.6.1.3.42	fibreChannel	NODE
1.3.6.1.3.42.2	fcFabric	NODE
1.3.6.1.3.42.2.1	fcFe	NODE
1.3.6.1.3.42.2.1.1	fcFeConfig	NODE
1.3.6.1.3.42.2.1.1.1	fcFabricName	LEAF FabricName
1.3.6.1.3.42.2.1.1.2	fcElementName	LEAF FcNameId
1.3.6.1.3.42.2.1.1.3	fcFeModuleCapacity	LEAF FcFeModuleCapacity
1.3.6.1.3.42.2.1.1.4	fcFeModuleTable	NODE
1.3.6.1.3.42.2.1.1.4.1	fcFeModuleEntry	NODE
1.3.6.1.3.42.2.1.1.4.1.1	fcFeModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.1.4.1.2	fcFeModuleDescr	LEAF DisplayString
1.3.6.1.3.42.2.1.1.4.1.3	fcFeModuleObjectID	LEAF OBJECT IDENTIFIER
1.3.6.1.3.42.2.1.1.4.1.4	fcFeModuleOperStatus	LEAF INTEGER
1.3.6.1.3.42.2.1.1.4.1.5	fcFeModuleLastChange	LEAF TimeTicks
1.3.6.1.3.42.2.1.1.4.1.6	fcFeModuleFxpPortCapacity	LEAF FcFeFxpPortCapacity
1.3.6.1.3.42.2.1.1.4.1.7	fcFeModuleName	LEAF FcNameId
1.3.6.1.3.42.2.1.1.5	fcFxpConfTable	NODE

1.3.6.1.3.42.2.1.1.5.1	fcFxConfEntry	NODE
1.3.6.1.3.42.2.1.1.5.1.1	fcFxConfModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.1.5.1.2	fcFxConfFxpPortIndex	LEAF FcFeFxpPortIndex
1.3.6.1.3.42.2.1.1.5.1.3	fcFxPortName	LEAF FcPortName
1.3.6.1.3.42.2.1.1.5.1.4	fcFxPortFcphVersionHigh	LEAF FcphVersion
1.3.6.1.3.42.2.1.1.5.1.5	fcFxPortFcphVersionLow	LEAF FcphVersion
1.3.6.1.3.42.2.1.1.5.1.6	fcFxPortBbCredit	LEAF FcBbCredit
1.3.6.1.3.42.2.1.1.5.1.7	fcFxPortRxBufSize	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.1.5.1.8	fcFxPortRatov	LEAF MilliSeconds
1.3.6.1.3.42.2.1.1.5.1.9	fcFxPortEdtov	LEAF MilliSeconds
1.3.6.1.3.42.2.1.1.5.1.10	fcFxPortCosSupported	LEAF FcCosCap
1.3.6.1.3.42.2.1.1.5.1.11	fcFxPortIntermixSupported	LEAF INTEGER
1.3.6.1.3.42.2.1.1.5.1.12	fcFxPortStackedConnMode	LEAF FcStackedConnMode
1.3.6.1.3.42.2.1.1.5.1.13	fcFxPortClass2SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.1.5.1.14	fcFxPortClass3SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.1.5.1.15	fcFxPortHoldTime	LEAF MicroSeconds
1.3.6.1.3.42.2.1.1.5.1.16	fcFxPortBaudRate	LEAF FcOBaudRate
1.3.6.1.3.42.2.1.1.5.1.17	fcFxPortMedium	LEAF FcOMedium
1.3.6.1.3.42.2.1.1.5.1.18	fcFxPortTxType	LEAF FcOTxType
1.3.6.1.3.42.2.1.1.5.1.19	fcFxPortDistance	LEAF FcODistance
1.3.6.1.3.42.2.1.2	fcFeOp	NODE
1.3.6.1.3.42.2.1.2.1	fcFxPortOperTable	NODE
1.3.6.1.3.42.2.1.2.1.1	fcFxPortOperEntry	NODE
1.3.6.1.3.42.2.1.2.1.1.1	fcFxPortOperModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.2.1.1.2	fcFxPortOperFxpPortIndex	LEAF FcFeFxpPortIndex
1.3.6.1.3.42.2.1.2.1.1.3	fcFxPortID	LEAF FcAddressId
1.3.6.1.3.42.2.1.2.1.1.4	fcFPortAttachedPortName	LEAF FcPortName
1.3.6.1.3.42.2.1.2.1.1.5	fcFPortConnectedPort	LEAF FcAddressId
1.3.6.1.3.42.2.1.2.1.1.6	fcFxPortBbCreditAvailable	LEAF Gauge
1.3.6.1.3.42.2.1.2.1.1.7	fcFxPortOperMode	LEAF FcFxPortMode

1.3.6.1.3.42.2.1.2.1.1.8	fcFxPortAdminMode	LEAF FcFxPortMode
1.3.6.1.3.42.2.1.2.3	fcFxPortPhysTable	NODE
1.3.6.1.3.42.2.1.2.3.1	fcFxPortPhysEntry	NODE
1.3.6.1.3.42.2.1.2.3.1.1	fcFxPortPhysModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.2.3.1.2	fcFxPortPhysFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.2.3.1.3	fcFxPortPhysAdminStatus	LEAF INTEGER
1.3.6.1.3.42.2.1.2.3.1.4	fcFxPortPhysOperStatus	LEAF INTEGER
1.3.6.1.3.42.2.1.2.3.1.5	fcFxPortPhysLastChange	LEAF TimeTicks
1.3.6.1.3.42.2.1.2.3.1.6	fcFxPortPhysRttov	LEAF MilliSeconds
1.3.6.1.3.42.2.1.2.4	fcFxlogiTable	NODE
1.3.6.1.3.42.2.1.2.4.1	fcFxlogiEntry	NODE
1.3.6.1.3.42.2.1.2.4.1.1	fcFxlogiModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.2.4.1.2	fcFxlogiFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.2.4.1.3	fcFxlogiNxPortIndex	LEAF FcFeNxPortIndex
1.3.6.1.3.42.2.1.2.4.1.4	fcFxPortFcphVersionAgreed	LEAF FcphVersion
1.3.6.1.3.42.2.1.2.4.1.5	fcFxPortNxPortBbCredit	LEAF FcBbCredit
1.3.6.1.3.42.2.1.2.4.1.6	fcFxPortNxPortRxDataFieldSize	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.2.4.1.7	fcFxPortCosSuppAgreed	LEAF FcCosCap
1.3.6.1.3.42.2.1.2.4.1.8	fcFxPortIntermixSuppAgreed	LEAF INTEGER
1.3.6.1.3.42.2.1.2.4.1.9	fcFxPortStackedConnModeAgreed	LEAF FcStackedConnMode
1.3.6.1.3.42.2.1.2.4.1.10	fcFxPortClass2SeqDelivAgreed	LEAF INTEGER
1.3.6.1.3.42.2.1.2.4.1.11	fcFxPortClass3SeqDelivAgreed	LEAF INTEGER
1.3.6.1.3.42.2.1.2.4.1.12	fcFxPortNxPortName	LEAF FcPortName
1.3.6.1.3.42.2.1.2.4.1.13	fcFxPortConnectedNxPort	LEAF FcAddressId
1.3.6.1.3.42.2.1.2.4.1.14	fcFxPortBbCreditModel	LEAF FcBbCreditModel
1.3.6.1.3.42.2.1.3	fcFeError	NODE
1.3.6.1.3.42.2.1.3.1	fcFxPortErrorTable	NODE
1.3.6.1.3.42.2.1.3.1.1	fcFxPortErrorEntry	NODE
1.3.6.1.3.42.2.1.3.1.1.1	fcFxPortErrorModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.3.1.1.2	fcFxPortErrorFxPortIndex	LEAF FcFeFxPortIndex

1.3.6.1.3.42.2.1.3.1.1.3	fcFxpPortLinkFailures	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.4	fcFxpPortSyncLosses	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.5	fcFxpPortSigLosses	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.6	fcFxpPortPrimSeqProtoErrors	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.7	fcFxpPortInvalidTxWords	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.8	fcFxpPortInvalidCrcs	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.9	fcFxpPortDelimiterErrors	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.10	fcFxpPortAddressIdErrors	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.11	fcFxpPortLinkResetIns	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.12	fcFxpPortLinkResetOuts	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.13	fcFxpPortOlsIns	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.14	fcFxpPortOlsOuts	LEAF Counter
1.3.6.1.3.42.2.1.4	fcFeAcct	NODE
1.3.6.1.3.42.2.1.4.1	fcFxpPortC1AcctTable	NODE
1.3.6.1.3.42.2.1.4.1.1	fcFxpPortC1AcctEntry	NODE
1.3.6.1.3.42.2.1.4.1.1.1	fcFxpPortC1AcctModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.4.1.1.2	fcFxpPortC1AcctFxpPortIndex	LEAF FcFeFxpPortIndex
1.3.6.1.3.42.2.1.4.1.1.3	fcFxpPortC1InConnections	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.4	fcFxpPortC1OutConnections	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.5	fcFxpPortC1FbsyFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.6	fcFxpPortC1FrjtFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.7	fcFxpPortC1ConnTime	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.8	fcFxpPortC1InFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.9	fcFxpPortC1OutFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.10	fcFxpPortC1InOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.11	fcFxpPortC1OutOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.12	fcFxpPortC1Discards	LEAF Counter
1.3.6.1.3.42.2.1.4.2	fcFxpPortC2AcctTable	NODE
1.3.6.1.3.42.2.1.4.2.1	fcFxpPortC2AcctEntry	NODE
1.3.6.1.3.42.2.1.4.2.1.1	fcFxpPortC2AcctModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.4.2.1.2	fcFxpPortC2AcctFxpPortIndex	LEAF FcFeFxpPortIndex

1.3.6.1.3.42.2.1.4.2.1.3	fcFxPortC2InFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.4	fcFxPortC2OutFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.5	fcFxPortC2InOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.6	fcFxPortC2OutOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.7	fcFxPortC2Discards	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.8	fcFxPortC2FbsyFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.9	fcFxPortC2FrjtFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.3	fcFxPortC3AcctTable	NODE
1.3.6.1.3.42.2.1.4.3.1	fcFxPortC3AcctEntry	NODE
1.3.6.1.3.42.2.1.4.3.1.1	fcFxPortC3AcctModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.4.3.1.2	fcFxPortC3AcctFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.4.3.1.3	fcFxPortC3InFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.4	fcFxPortC3OutFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.5	fcFxPortC3InOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.6	fcFxPortC3OutOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.7	fcFxPortC3Discards	LEAF Counter
1.3.6.1.3.42.2.1.5	fcFeCap	NODE
1.3.6.1.3.42.2.1.5.1	fcFxPortCapTable	NODE
1.3.6.1.3.42.2.1.5.1.1	fcFxPortCapEntry	NODE
1.3.6.1.3.42.2.1.5.1.1.1	fcFxPortCapModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.5.1.1.2	fcFxPortCapFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.5.1.1.3	fcFxPortCapFcphVersionHigh	LEAF FcphVersion
1.3.6.1.3.42.2.1.5.1.1.4	fcFxPortCapFcphVersionLow	LEAF FcphVersion
1.3.6.1.3.42.2.1.5.1.1.5	fcFxPortCapBbCreditMax	LEAF FcBbCredit
1.3.6.1.3.42.2.1.5.1.1.6	fcFxPortCapBbCreditMin	LEAF FcBbCredit
1.3.6.1.3.42.2.1.5.1.1.7	fcFxPortCapRxDataFieldSizeMax	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.5.1.1.8	fcFxPortCapRxDataFieldSizeMin	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.5.1.1.9	fcFxPortCapCos	LEAF FcCosCap
1.3.6.1.3.42.2.1.5.1.1.10	fcFxPortCapIntermix	LEAF INTEGER
1.3.6.1.3.42.2.1.5.1.1.11	fcFxPortCapStackedConnMode	LEAF FcStackedConnMode

1.3.6.1.3.42.2.1.5.1.1.12	fcFxPortCapClass2SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.5.1.1.13	fcFxPortCapClass3SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.5.1.1.14	fcFxPortCapHoldTimeMax	LEAF MicroSeconds
1.3.6.1.3.42.2.1.5.1.1.15	fcFxPortCapHoldTimeMin	LEAF MicroSeconds
1.3.6.1.3.42.2.1.5.1.1.16	fcFxPortCapBaudRates	LEAF Fc0BaudRateCap
1.3.6.1.3.42.2.1.5.1.1.17	fcFxPortCapMedia	LEAF Fc0MediaCap
1.3.6.1.4	private	NODE
1.3.6.1.4.1	enterprises	NODE
1.3.6.1.4.1.289	mcData	NODE
1.3.6.1.4.1.289.2	commDev	NODE
1.3.6.1.4.1.289.2.1	fibreChannel	NODE
1.3.6.1.4.1.289.2.1.1	fcSwitch	NODE
1.3.6.1.4.1.289.2.1.1.2	fcEos	NODE
1.3.6.1.4.1.289.2.1.1.2.1	fcEosSys	NODE
1.3.6.1.4.1.289.2.1.1.2.1.1	fcEosSysCurrentDate	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.2	fcEosSysBootDate	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.3	fcEosSysFirmwareVersion	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.4	fcEosSysTypeNum	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.5	fcEosSysModelNum	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.6	fcEosSysMfg	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.7	fcEosSysPlantOfMfg	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.8	fcEosSysEcLevel	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.9	fcEosSysSerialNum	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.10	fcEosSysOperStatus	LEAF FcEosSysOperStatus
1.3.6.1.4.1.289.2.1.1.2.1.11	fcEosSysState	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.1.12	fcEosSysAdmStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.1.13	fcEosSysConfigSpeed	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.1.14	fcEosSysOpenTrunking	LEAF TruthValue
1.3.6.1.4.1.289.2.1.1.2.2	fcEosFru	NODE
1.3.6.1.4.1.289.2.1.1.2.2.1	fcEosFruTable	NODE
1.3.6.1.4.1.289.2.1.1.2.2.1.1	fcEosFruEntry	NODE

1.3.6.1.4.1.289.2.1.1.2.2.1.1.1	fcEosFruCode	LEAF FcEosFruCode
1.3.6.1.4.1.289.2.1.1.2.2.1.1.2	fcEosFruPosition	LEAF FcEosFruPosition
1.3.6.1.4.1.289.2.1.1.2.2.1.1.3	fcEosFruStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.2.1.1.4	fcEosFruPartNumber	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.2.1.1.5	fcEosFruSerialNumber	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.2.1.1.6	fcEosFruPowerOnHours	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.2.1.1.7	fcEosFruTestDate	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.3	fcEosPort	NODE
1.3.6.1.4.1.289.2.1.1.2.3.1	fcEosPortTable	NODE
1.3.6.1.4.1.289.2.1.1.2.3.1.1	fcEosPortEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.3.1.1.1	fcEosPortIndex	LEAF FcEosPortIndex
1.3.6.1.4.1.289.2.1.1.2.3.1.1.2	fcEosPortPhyState	LEAF FcEosPortPhyState
1.3.6.1.4.1.289.2.1.1.2.3.1.1.3	fcEosPortOpStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.4	fcEosPortAdmStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.5	fcEosPortConnector	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.6	fcEosPortDistance	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.7	fcEosPortXceiverType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.8	fcEosPortMedia	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.9	fcEosPortSpeedCap	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.10	fcEosPortConfigSpeed	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.11	fcEosPortOpSpeed	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.12	fcEosPortConfigType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.13	fcEosPortOpType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.14	fcEosPortALPAIndex	LEAF LoopPortALPA
1.3.6.1.4.1.289.2.1.1.2.3.1.1.15	fcEosPortFAN	LEAF TruthValue
1.3.6.1.4.1.289.2.1.1.2.3.1.1.20	fcEosPortTxWords32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.21	fcEosPortRxWords32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.22	fcEosPortTxFrames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.23	fcEosPortRxFrames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.24	fcEosPortTxThroughput	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.25	fcEosPortRxThroughput	LEAF Counter

1.3.6.1.4.1.289.2.1.1.2.3.1.1.30	fcEosPortTxC2Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.31	fcEosPortRxC2Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.32	fcEosPortTxC2Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.33	fcEosPortRxC2Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.34	fcEosPortTxC2Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.35	fcEosPortRxC2Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.36	fcEosPortRxC2FabricReject32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.37	fcEosPortRxC2FabricBusy32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.40	fcEosPortTxC3Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.41	fcEosPortRxC3Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.42	fcEosPortTxC3Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.43	fcEosPortRxC3Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.44	fcEosPortTxC3Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.45	fcEosPortRxC3Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.46	fcEosPortC3Discards32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.50	fcEosPortDiscardFrames	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.51	fcEosPortTxLinkResets	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.52	fcEosPortRxLinkResets	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.53	fcEosPortTxOLSS	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.54	fcEosPortRxOLSS	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.55	fcEosPortLIPsGenerated	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.56	fcEosPortLIPsDetected	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.58	fcEosPortAddrIDErrors	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.59	fcEosPortDelimiterErrors	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.60	fcEosPortSyncLosses	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.61	fcEosPortSigLosses	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.62	fcEosPortProtocolErrors	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.63	fcEosPortInvalidTxWords	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.64	fcEosPortLinkFailures	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.65	fcEosPortCrcs	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.66	fcEosPortTruncs	LEAF Counter

1.3.6.1.4.1.289.2.1.1.2.3.1.1.67	fcEosPortTxWords64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.68	fcEosPortRxWords64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.69	fcEosPortTxFrames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.70	fcEosPortRxFrames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.71	fcEosPortTxC2Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.72	fcEosPortRxC2Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.73	fcEosPortTxC2Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.74	fcEosPortRxC2Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.75	fcEosPortTxC2Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.76	fcEosPortRxC2Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.77	fcEosPortTxC3Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.78	fcEosPortRxC3Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.79	fcEosPortTxC3Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.80	fcEosPortRxC3Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.81	fcEosPortTxC3Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.82	fcEosPortRxC3Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.83	fcEosPortC3Discards64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.100	fcEosPortTxFlows	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.101	fcEosPortRxFlows	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.4	fcEosPortBinding	NODE
1.3.6.1.4.1.289.2.1.1.2.4.1	fcEosPortBindingTable	NODE
1.3.6.1.4.1.289.2.1.1.2.4.1.1	fcEosPortBindingEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.4.1.1.1	fcEosPortBindingIndex	LEAF FcEosPortIndex
1.3.6.1.4.1.289.2.1.1.2.4.1.1.2	fcEosPortBindingFlag	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.4.1.1.3	fcEosPortConfiguredWWN	LEAF FcEosPortWWN
1.3.6.1.4.1.289.2.1.1.2.4.1.1.4	fcEosPortAttachedWWN	LEAF FcEosPortWWN
1.3.6.1.4.1.289.2.1.1.2.5	fcEosZoning	NODE
1.3.6.1.4.1.289.2.1.1.2.5.1	fcEosActiveZoneSetName	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.5.2	fcEosActiveZoneCount	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.3	fcEosDefaultZoneSetState	LEAF INTEGER

1.3.6.1.4.1.289.2.1.1.2.5.4	fcEosActiveZoneSetState	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.5	fcEosHardwareEnforcedZoning	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.6	fcEosActiveZoneTable	NODE
1.3.6.1.4.1.289.2.1.1.2.5.6.1	fcEosActiveZoneEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.5.6.1.1	fcEosZoneIndex	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.6.1.2	fcEosZoneName	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.5.6.1.3	fcEosZoneMemberCount	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7	fcEosActiveMemberTable	NODE
1.3.6.1.4.1.289.2.1.1.2.5.7.1	fcEosActiveMemberEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.5.7.1.1	fcEosMemberZoneIndex	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.2	fcEosMemberIndex	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.3	fcEosMemberType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.4	fcEosMemberWWN	LEAF FcEosPortWWN
1.3.6.1.4.1.289.2.1.1.2.5.7.1.5	fcEosMemberDomainID	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.6	fcEosMemberPortNumber	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6	fcEosTA	NODE
1.3.6.1.4.1.289.2.1.1.2.6.1	fcEosTATable	NODE
1.3.6.1.4.1.289.2.1.1.2.6.1.1	fcEosTAEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.6.1.1.1	fcEosTAIndex	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.2	fcEosTAName	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.6.1.1.3	fcEosTASState	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.4	fcEosTAType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.5	fcEosTAPortType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.6	fcEosTAPortList	LEAF FcEosPortList
1.3.6.1.4.1.289.2.1.1.2.6.1.1.7	fcEosTAInterval	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.8	fcEosTATriggerValue	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.9	fcEosTTADirection	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.10	fcEosTTATriggerDuration	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.11	fcEosCTACounter	LEAF INTEGER
1.3.6.1.5	security	NODE
1.3.6.1.6	snmpV2	NODE

1.3.6.1.6.1	snmpDomains	NODE
1.3.6.1.6.1.1	snmpUDPDomain	NODE
1.3.6.1.6.1.2	snmpCLNSDomain	NODE
1.3.6.1.6.1.3	snmpCONSDomain	NODE
1.3.6.1.6.1.4	snmpDDPDomain	NODE
1.3.6.1.6.1.5	snmplPXDomain	NODE
1.3.6.1.6.2	snmpProxys	NODE
1.3.6.1.6.2.1	rfc1157Proxy	NODE
1.3.6.1.6.2.1.1	rfc1157Domain	NODE
1.3.6.1.6.3	snmpModules	NODE
1.3.6.1.6.3.10	snmpFrameworkMIB	NODE
1.3.6.1.6.3.10.1	snmpFrameworkAdmin	NODE
1.3.6.1.6.3.10.1.1	snmpAuthProtocols	NODE
1.3.6.1.6.3.10.1.2	snmpPrivProtocols	NODE
1.3.6.1.6.3.10.2	snmpFrameworkMIBObjects	NODE
1.3.6.1.6.3.10.2.1	snmpEngine	NODE
1.3.6.1.6.3.10.2.1.1	snmpEngineID	LEAF SnmpEngineID
1.3.6.1.6.3.10.2.1.2	snmpEngineBoots	LEAF INTEGER
1.3.6.1.6.3.10.2.1.3	snmpEngineTime	LEAF INTEGER
1.3.6.1.6.3.10.2.1.4	snmpEngineMaxMessageSize	LEAF INTEGER
1.3.6.1.6.3.10.3	snmpFrameworkMIBConformance	NODE
1.3.6.1.6.3.10.3.1	snmpFrameworkMIBCompliances	NODE
1.3.6.1.6.3.10.3.1.1	snmpFrameworkMIBCompliance	NODE
1.3.6.1.6.3.10.3.2	snmpFrameworkMIBGroups	NODE
1.3.6.1.6.3.10.3.2.1	snmpEngineGroup	NODE

MIB Objects Sorted Alphabetically



This appendix contains a list of all MIBs used in mib2.mib, sfw.mib, fcfe.mib, fceos.mib, and fa.mib, sorted alphabetically.

1.3.6.1.2.1.3	at	NODE
1.3.6.1.2.1.3.1.1	atEntry	NODE
1.3.6.1.2.1.3.1.1.1	atIfIndex	LEAF INTEGER
1.3.6.1.2.1.3.1.1.3	atNetAddress	LEAF NetworkAddress
1.3.6.1.2.1.3.1.1.2	atPhysAddress	LEAF PhysAddress
1.3.6.1.2.1.3.1	atTable	NODE
0	ccitt	NODE
1.3.6.1.4.1.289.2	commDev	NODE
1.3.6.1.1	directory	NODE
1.3.6	dod	NODE
1.3.6.1.2.1.8	egp	NODE
1.3.6.1.4.1	enterprises	NODE
1.3.6.1.3	experimental	NODE
1.3.6.1.2.1.8888.1.1.2	fcConnURL	LEAF DisplayString
1.3.6.1.2.1.8888.1.1.3.1.20	fcConnUnitContact	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.19	fcConnUnitControl	LEAF INTEGER
1.3.6.1.2.1.8888.0.2	fcConnUnitDeletedTrap	NODE
1.3.6.1.2.1.8888.1.1.3.1.11	fcConnUnitDomainId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.3.1	fcConnUnitEntry	NODE
1.3.6.1.2.1.8888.1.1.3.1.25	fcConnUnitEventCurrid	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.7.1.7	fcConnUnitEventDescr	LEAF SnmpAdminString

1.3.6.1.2.1.8888.1.1.7.1	fcConnUnitEventEntry	NODE
1.3.6.1.2.1.8888.1.1.3.1.22	fcConnUnitEventFilter	LEAF FcEventSeverity
1.3.6.1.2.1.8888.1.1.7.1.1	fcConnUnitEventIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.7.1.6	fcConnUnitEventObject	LEAF OBJECT IDENTIFIER
1.3.6.1.2.1.8888.1.1.7.1.4	fcConnUnitEventSeverity	LEAF FcEventSeverity
1.3.6.1.2.1.8888.1.1.7	fcConnUnitEventTable	NODE
1.3.6.1.2.1.8888.0.3	fcConnUnitEventTrap	NODE
1.3.6.1.2.1.8888.1.1.7.1.5	fcConnUnitEventType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.2	fcConnUnitGlobalId	LEAF FcGlobalId
1.3.6.1.2.1.8888.2.2.1	fcConnUnitGroup	NODE
1.3.6.1.2.1.8888.1.1.3.1.1	fcConnUnitId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.3.1.18	fcConnUnitInfo	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.8.1.9	fcConnUnitLinkAgentAddressTypeY	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.8.1.8	fcConnUnitLinkAgentAddressY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.10	fcConnUnitLinkAgentPortY	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.8.1.12	fcConnUnitLinkConnIdY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1	fcConnUnitLinkEntry	NODE
1.3.6.1.2.1.8888.1.1.8.1.1	fcConnUnitLinkIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.8.1.2	fcConnUnitLinkNodeIdX	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.5	fcConnUnitLinkNodeIdY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.3	fcConnUnitLinkPortNumberX	LEAF Integer32
1.3.6.1.2.1.8888.1.1.8.1.6	fcConnUnitLinkPortNumberY	LEAF Integer32
1.3.6.1.2.1.8888.1.1.8.1.4	fcConnUnitLinkPortWwnX	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8.1.7	fcConnUnitLinkPortWwnY	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.8	fcConnUnitLinkTable	NODE
1.3.6.1.2.1.8888.1.1.8.1.11	fcConnUnitLinkUnitTypeY	LEAF FcUnitType
1.3.6.1.2.1.8888.1.1.3.1.21	fcConnUnitLocation	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.24	fcConnUnitMaxEvents	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.16	fcConnUnitModuleId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.3.1.17	fcConnUnitName	LEAF SnmpAdminString

1.3.6.1.2.1.8888.1.1.3.1.23	fcConnUnitNumEvents	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.4	fcConnUnitNumPorts	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.15	fcConnUnitNumRevs	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.3.1.14	fcConnUnitNumSensors	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.1	fcConnUnitNumber	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.6.1.15	fcConnUnitPortControl	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1	fcConnUnitPortEntry	NODE
1.3.6.1.2.1.8888.1.1.6.1.3	fcConnUnitPortFCClassCap	LEAF FcPortFCClass
1.3.6.1.2.1.8888.1.1.6.1.4	fcConnUnitPortFCClassOp	LEAF FcPortFCClass
1.3.6.1.2.1.8888.1.1.6.1.10	fcConnUnitPortFCId	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.6.1.21	fcConnUnitPortHWState	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.1	fcConnUnitPortIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.6.1.8	fcConnUnitPortModuleType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.16	fcConnUnitPortName	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.20	fcConnUnitPortNodeWwn	LEAF FcNameId
1.3.6.1.2.1.8888.1.1.6.1.17	fcConnUnitPortPhysicalNumber	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.6.1.18	fcConnUnitPortProtocolCap	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.6.1.19	fcConnUnitPortProtocolOp	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.1.6.1.12	fcConnUnitPortRevision	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.11	fcConnUnitPortSerialNo	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.14	fcConnUnitPortSpeed	LEAF Unsigned32
1.3.6.1.2.1.8888.1.3.1.1.47	fcConnUnitPortStatAddressErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.7	fcConnUnitPortStatBBCreditZero	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.15	fcConnUnitPortStatC1FBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.17	fcConnUnitPortStatC1FRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.16	fcConnUnitPortStatC1PBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.18	fcConnUnitPortStatC1PRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.13	fcConnUnitPortStatC1RxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.14	fcConnUnitPortStatC1TxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.21	fcConnUnitPortStatC2FBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.23	fcConnUnitPortStatC2FRJTFrames	LEAF Counter64

1.3.6.1.2.1.8888.1.3.1.1.22	fcConnUnitPortStatC2PBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.24	fcConnUnitPortStatC2PRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.19	fcConnUnitPortStatC2RxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.20	fcConnUnitPortStatC2TxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.27	fcConnUnitPortStatC3Discards	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.25	fcConnUnitPortStatC3RxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.26	fcConnUnitPortStatC3TxFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.48	fcConnUnitPortStatDelimiterErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.49	fcConnUnitPortStatEncodingErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1	fcConnUnitPortStatEntry	NODE
1.3.6.1.2.1.8888.1.3.1.1.2	fcConnUnitPortStatErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.9	fcConnUnitPortStatFBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.11	fcConnUnitPortStatFRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.45	fcConnUnitPortStatFramesTooLong	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.46	fcConnUnitPortStatFramesTooShort	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.1	fcConnUnitPortStatIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.3.1.1.8	fcConnUnitPortStatInputBufsFull	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.44	fcConnUnitPortStatInvOrderedSets	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.39	fcConnUnitPortStatInvalidCRC	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.40	fcConnUnitPortStatInvalidTxWords	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.38	fcConnUnitPortStatLinkFailures	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.34	fcConnUnitPortStatLinkResets	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.42	fcConnUnitPortStatLossOfSignal	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.43	fcConnUnitPortStatLossOfSync	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.37	fcConnUnitPortStatOfflineSeqs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.10	fcConnUnitPortStatPBSYFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.12	fcConnUnitPortStatPRJTFrames	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.41	fcConnUnitPortStatPSPErrs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.30	fcConnUnitPortStatRxBcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.6	fcConnUnitPortStatRxElements	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.32	fcConnUnitPortStatRxLinkResets	LEAF Counter64

1.3.6.1.2.1.8888.1.3.1.1.28	fcConnUnitPortStatRxMcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.4	fcConnUnitPortStatRxObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.35	fcConnUnitPortStatRxOfflineSeqs	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1	fcConnUnitPortStatTable	NODE
1.3.6.1.2.1.8888.1.3.1.1.31	fcConnUnitPortStatTxBcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.5	fcConnUnitPortStatTxElements	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.33	fcConnUnitPortStatTxLinkResets	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.29	fcConnUnitPortStatTxMcastObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.3	fcConnUnitPortStatTxObjects	LEAF Counter64
1.3.6.1.2.1.8888.1.3.1.1.36	fcConnUnitPortStatTxOfflineSeqs	LEAF Counter64
1.3.6.1.2.1.8888.1.1.6.1.5	fcConnUnitPortState	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.6	fcConnUnitPortStatus	LEAF INTEGER
1.3.6.1.2.1.8888.0.5	fcConnUnitPortStatusChange	NODE
1.3.6.1.2.1.8888.1.1.6	fcConnUnitPortTable	NODE
1.3.6.1.2.1.8888.1.1.6.1.7	fcConnUnitPortTransmitterType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.2	fcConnUnitPortType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.6.1.13	fcConnUnitPortVendor	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.6.1.9	fcConnUnitPortWwn	LEAF FcNameId
1.3.6.1.2.1.8888.1.1.3.1.13	fcConnUnitPrincipal	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.7	fcConnUnitProduct	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.3.1.12	fcConnUnitProxyMaster	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.7.1.2	fcConnUnitREventTime	LEAF DisplayString
1.3.6.1.2.1.8888.1.1.4.1.3	fcConnUnitRevsDescription	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.4.1	fcConnUnitRevsEntry	NODE
1.3.6.1.2.1.8888.1.1.4.1.1	fcConnUnitRevsIndex	LEAF Unsigned32
1.3.6.1.2.1.8888.1.1.4.1.2	fcConnUnitRevsRevision	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.4	fcConnUnitRevsTable	NODE
1.3.6.1.2.1.8888.1.1.7.1.3	fcConnUnitSEventTime	LEAF TimeTicks
1.3.6.1.2.1.8888.1.1.5.1.7	fcConnUnitSensorCharacteristic	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.5.1	fcConnUnitSensorEntry	NODE
1.3.6.1.2.1.8888.1.1.5.1.1	fcConnUnitSensorIndex	LEAF Unsigned32

1.3.6.1.2.1.8888.1.1.5.1.4	fcConnUnitSensorInfo	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.5.1.5	fcConnUnitSensorMessage	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.5.1.2	fcConnUnitSensorName	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.1.5.1.3	fcConnUnitSensorStatus	LEAF INTEGER
1.3.6.1.2.1.8888.0.4	fcConnUnitSensorStatusChange	NODE
1.3.6.1.2.1.8888.1.1.5	fcConnUnitSensorTable	NODE
1.3.6.1.2.1.8888.1.1.5.1.6	fcConnUnitSensorType	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.8	fcConnUnitSerialNo	LEAF SnmpAdminString
1.3.6.1.2.1.8888.1.4.1.1.5	fcConnUnitSnsClassOfSvc	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1	fcConnUnitSnsEntry	NODE
1.3.6.1.2.1.8888.1.4.1.1.8	fcConnUnitSnsFC4Type	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.11	fcConnUnitSnsFabricPortName	LEAF FcNameId
1.3.6.1.2.1.8888.1.4.1.1.12	fcConnUnitSnsHardAddress	LEAF FcGlobalId
1.3.6.1.2.1.8888.1.1.9	fcConnUnitSnsMaxRows	LEAF Counter32
1.3.6.1.2.1.8888.1.4.1.1.6	fcConnUnitSnsNodeIPAddress	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.4	fcConnUnitSnsNodeName	LEAF FcNameId
1.3.6.1.2.1.8888.1.4.1.1.10	fcConnUnitSnsPortIPAddress	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.2	fcConnUnitSnsPortIdentifier	LEAF FcGlobalId
1.3.6.1.2.1.8888.1.4.1.1.1	fcConnUnitSnsPortIndex	LEAF Counter32
1.3.6.1.2.1.8888.1.4.1.1.3	fcConnUnitSnsPortName	LEAF FcNameId
1.3.6.1.2.1.8888.1.4.1.1.9	fcConnUnitSnsPortType	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.7	fcConnUnitSnsProcAssoc	LEAF OCTET STRING
1.3.6.1.2.1.8888.1.4.1.1.14	fcConnUnitSnsSymbolicNodeName	LEAF DisplayString
1.3.6.1.2.1.8888.1.4.1.1.13	fcConnUnitSnsSymbolicPortName	LEAF DisplayString
1.3.6.1.2.1.8888.1.4.1	fcConnUnitSnsTable	NODE
1.3.6.1.2.1.8888.1.1.3.1.5	fcConnUnitState	LEAF INTEGER
1.3.6.1.2.1.8888.1.1.3.1.6	fcConnUnitStatus	LEAF INTEGER
1.3.6.1.2.1.8888.0.1	fcConnUnitStatusChange	NODE
1.3.6.1.2.1.8888.1.1.3	fcConnUnitTable	NODE
1.3.6.1.2.1.8888.1.1.3.1.3	fcConnUnitType	LEAF FcUnitType
1.3.6.1.2.1.8888.1.1.3.1.9	fcConnUnitUpTime	LEAF TimeTicks

1.3.6.1.2.1.8888.1.1.3.1.10	fcConnUnitUrl	LEAF DisplayString
1.3.6.1.2.1.8888.2.2.2	fcCuEventGroup	NODE
1.3.6.1.2.1.8888.2.2.3	fcCuLinkGroup	NODE
1.3.6.1.2.1.8888.2.2.7	fcCuNotificationsGroup	NODE
1.3.6.1.2.1.8888.2.2.4	fcCuPortStatsGroup	NODE
1.3.6.1.2.1.8888.2.2.5	fcCuSNSGroup	NODE
1.3.6.1.2.1.8888.2.2.6	fcCuTrapFiltersGroup	NODE
1.3.6.1.3.42.2.1.1.2	fcElementName	LEAF FcNameId
1.3.6.1.4.1.289.2.1.1.2	fcEos	NODE
1.3.6.1.4.1.289.2.1.1.2.5.7.1	fcEosActiveMemberEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.5.7	fcEosActiveMemberTable	NODE
1.3.6.1.4.1.289.2.1.1.2.5.2	fcEosActiveZoneCount	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.6.1	fcEosActiveZoneEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.5.1	fcEosActiveZoneSetName	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.5.4	fcEosActiveZoneSetState	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.6	fcEosActiveZoneTable	NODE
1.3.6.1.4.1.289.2.1.1.2.6.1.1.11	fcEosCTACounter	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.3	fcEosDefaultZoneSetState	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.2	fcEosFru	NODE
1.3.6.1.4.1.289.2.1.1.2.2.1.1.1	fcEosFruCode	LEAF FcEosFruCode
1.3.6.1.4.1.289.2.1.1.2.2.1.1	fcEosFruEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.2.1.1.4	fcEosFruPartNumber	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.2.1.1.2	fcEosFruPosition	LEAF FcEosFruPosition
1.3.6.1.4.1.289.2.1.1.2.2.1.1.6	fcEosFruPowerOnHours	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.2.1.1.5	fcEosFruSerialNumber	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.2.1.1.3	fcEosFruStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.2.1	fcEosFruTable	NODE
1.3.6.1.4.1.289.2.1.1.2.2.1.1.7	fcEosFruTestDate	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.5.5	fcEosHardwareEnforcedZoning	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.5	fcEosMemberDomainID	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.2	fcEosMemberIndex	LEAF INTEGER

1.3.6.1.4.1.289.2.1.1.2.5.7.1.6	fcEosMemberPortNumber	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.3	fcEosMemberType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.7.1.4	fcEosMemberWWN	LEAF FcEosPortWWN
1.3.6.1.4.1.289.2.1.1.2.5.7.1.1	fcEosMemberZoneIndex	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3	fcEosPort	NODE
1.3.6.1.4.1.289.2.1.1.2.3.1.1.14	fcEosPortALPAIndex	LEAF LoopPortALPA
1.3.6.1.4.1.289.2.1.1.2.3.1.1.58	fcEosPortAddrIDErrors	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.4	fcEosPortAdmStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.4.1.1.4	fcEosPortAttachedWWN	LEAF FcEosPortWWN
1.3.6.1.4.1.289.2.1.1.2.4	fcEosPortBinding	NODE
1.3.6.1.4.1.289.2.1.1.2.4.1.1	fcEosPortBindingEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.4.1.1.2	fcEosPortBindingFlag	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.4.1.1.1	fcEosPortBindingIndex	LEAF FcEosPortIndex
1.3.6.1.4.1.289.2.1.1.2.4.1	fcEosPortBindingTable	NODE
1.3.6.1.4.1.289.2.1.1.2.3.1.1.46	fcEosPortC3Discards32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.83	fcEosPortC3Discards64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.10	fcEosPortConfigSpeed	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.12	fcEosPortConfigType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.4.1.1.3	fcEosPortConfiguredWWN	LEAF FcEosPortWWN
1.3.6.1.4.1.289.2.1.1.2.3.1.1.5	fcEosPortConnector	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.65	fcEosPortCrcs	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.59	fcEosPortDelimiterErrors	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.50	fcEosPortDiscardFrames	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.6	fcEosPortDistance	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1	fcEosPortEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.3.1.1.15	fcEosPortFAN	LEAF TruthValue
1.3.6.1.4.1.289.2.1.1.2.3.1.1.1	fcEosPortIndex	LEAF FcEosPortIndex
1.3.6.1.4.1.289.2.1.1.2.3.1.1.63	fcEosPortInvalidTxWords	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.56	fcEosPortLIIPsDetected	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.55	fcEosPortLIIPsGenerated	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.64	fcEosPortLinkFailures	LEAF Counter

1.3.6.1.4.1.289.2.1.1.2.3.1.1.8	fcEosPortMedia	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.11	fcEosPortOpSpeed	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.3	fcEosPortOpStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.13	fcEosPortOpType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.3.1.1.2	fcEosPortPhyState	LEAF FcEosPortPhyState
1.3.6.1.4.1.289.2.1.1.2.3.1.1.62	fcEosPortProtocolErrors	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.37	fcEosPortRxC2FabricBusy32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.36	fcEosPortRxC2FabricReject32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.33	fcEosPortRxC2Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.74	fcEosPortRxC2Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.35	fcEosPortRxC2Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.76	fcEosPortRxC2Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.31	fcEosPortRxC2Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.72	fcEosPortRxC2Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.43	fcEosPortRxC3Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.80	fcEosPortRxC3Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.45	fcEosPortRxC3Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.82	fcEosPortRxC3Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.41	fcEosPortRxC3Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.78	fcEosPortRxC3Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.101	fcEosPortRxFlows	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.23	fcEosPortRxFrames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.70	fcEosPortRxFrames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.52	fcEosPortRxLinkResets	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.54	fcEosPortRxOLSSs	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.25	fcEosPortRxThroughput	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.21	fcEosPortRxWords32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.68	fcEosPortRxWords64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.61	fcEosPortSigLosses	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.9	fcEosPortSpeedCap	LEAF INTEGER

1.3.6.1.4.1.289.2.1.1.2.3.1.1.60	fcEosPortSyncLosses	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1	fcEosPortTable	NODE
1.3.6.1.4.1.289.2.1.1.2.3.1.1.66	fcEosPortTruncs	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.32	fcEosPortTxC2Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.73	fcEosPortTxC2Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.34	fcEosPortTxC2Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.75	fcEosPortTxC2Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.30	fcEosPortTxC2Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.71	fcEosPortTxC2Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.42	fcEosPortTxC3Frames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.79	fcEosPortTxC3Frames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.44	fcEosPortTxC3Octets32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.81	fcEosPortTxC3Octets64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.40	fcEosPortTxC3Words32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.77	fcEosPortTxC3Words64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.100	fcEosPortTxFlows	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.22	fcEosPortTxFrames32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.69	fcEosPortTxFrames64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.51	fcEosPortTxLinkResets	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.53	fcEosPortTxOLSSs	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.24	fcEosPortTxThroughput	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.20	fcEosPortTxWords32	LEAF Counter
1.3.6.1.4.1.289.2.1.1.2.3.1.1.67	fcEosPortTxWords64	LEAF OCTET STRING
1.3.6.1.4.1.289.2.1.1.2.3.1.1.7	fcEosPortXceiverType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.1	fcEosSys	NODE
1.3.6.1.4.1.289.2.1.1.2.1.12	fcEosSysAdmStatus	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.1.2	fcEosSysBootDate	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.13	fcEosSysConfigSpeed	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.1.1	fcEosSysCurrentDate	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.8	fcEosSysEcLevel	LEAF DisplayString

1.3.6.1.4.1.289.2.1.1.2.1.3	fcEosSysFirmwareVersion	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.6	fcEosSysMfg	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.5	fcEosSysModelNum	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.14	fcEosSysOpenTrunking	LEAF TruthValue
1.3.6.1.4.1.289.2.1.1.2.1.10	fcEosSysOperStatus	LEAF FcEosSysOperStatus
1.3.6.1.4.1.289.2.1.1.2.1.7	fcEosSysPlantOfMfg	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.9	fcEosSysSerialNum	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.1.11	fcEosSysState	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.1.4	fcEosSysTypeNum	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.6	fcEosTA	NODE
1.3.6.1.4.1.289.2.1.1.2.6.1.1	fcEosTAEntry	NODE
1.3.6.1.4.1.289.2.1.1.2.6.1.1.1	fcEosTAIndex	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.7	fcEosTAInterval	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.2	fcEosTAName	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.6.1.1.6	fcEosTAPortList	LEAF FcEosPortList
1.3.6.1.4.1.289.2.1.1.2.6.1.1.5	fcEosTAPortType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.3	fcEosTASState	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1	fcEosTATable	NODE
1.3.6.1.4.1.289.2.1.1.2.6.1.1.8	fcEosTATriggerValue	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.4	fcEosTAType	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.9	fcEosTTADirection	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.6.1.1.10	fcEosTTATriggerDuration	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.6.1.1	fcEosZoneIndex	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.6.1.3	fcEosZoneMemberCount	LEAF INTEGER
1.3.6.1.4.1.289.2.1.1.2.5.6.1.2	fcEosZoneName	LEAF DisplayString
1.3.6.1.4.1.289.2.1.1.2.5	fcEosZoning	NODE
1.3.6.1.3.42.2.1.2.1.1.4	fcFPortAttachedPortName	LEAF FcPortName
1.3.6.1.3.42.2.1.2.1.1.5	fcFPortConnectedPort	LEAF FcAddressId
1.3.6.1.3.42.2	fcFabric	NODE
1.3.6.1.3.42.2.1.1.1	fcFabricName	LEAF FabricName

1.3.6.1.3.42.2.1	fcFe	NODE
1.3.6.1.3.42.2.1.4	fcFeAcct	NODE
1.3.6.1.3.42.2.1.5	fcFeCap	NODE
1.3.6.1.3.42.2.1.1	fcFeConfig	NODE
1.3.6.1.3.42.2.1.3	fcFeError	NODE
1.3.6.1.3.42.2.1.1.3	fcFeModuleCapacity	LEAF FcFeModuleCapacity
1.3.6.1.3.42.2.1.1.4.1.2	fcFeModuleDescr	LEAF DisplayString
1.3.6.1.3.42.2.1.1.4.1	fcFeModuleEntry	NODE
1.3.6.1.3.42.2.1.1.4.1.6	fcFeModuleFxpPortCapacity	LEAF FcFeFxpPortCapacity
1.3.6.1.3.42.2.1.1.4.1.1	fcFeModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.1.4.1.5	fcFeModuleLastChange	LEAF TimeTicks
1.3.6.1.3.42.2.1.1.4.1.7	fcFeModuleName	LEAF FcNameId
1.3.6.1.3.42.2.1.1.4.1.3	fcFeModuleObjectID	LEAF OBJECT IDENTIFIER
1.3.6.1.3.42.2.1.1.4.1.4	fcFeModuleOperStatus	LEAF INTEGER
1.3.6.1.3.42.2.1.1.4	fcFeModuleTable	NODE
1.3.6.1.3.42.2.1.2	fcFeOp	NODE
1.3.6.1.3.42.2.1.1.5.1	fcFxCnfEntry	NODE
1.3.6.1.3.42.2.1.1.5.1.2	fcFxCnfFxpPortIndex	LEAF FcFeFxpPortIndex
1.3.6.1.3.42.2.1.1.5.1.1	fcFxCnfModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.1.5	fcFxCnfTable	NODE
1.3.6.1.3.42.2.1.3.1.1.10	fcFxpPortAddressIdErrors	LEAF Counter
1.3.6.1.3.42.2.1.2.1.1.8	fcFxpPortAdminMode	LEAF FcFxpPortMode
1.3.6.1.3.42.2.1.1.5.1.16	fcFxpPortBaudRate	LEAF FcOBaudRate
1.3.6.1.3.42.2.1.1.5.1.6	fcFxpPortBbCredit	LEAF FcBbCredit
1.3.6.1.3.42.2.1.2.1.1.6	fcFxpPortBbCreditAvailable	LEAF Gauge
1.3.6.1.3.42.2.1.2.4.1.14	fcFxpPortBbCreditModel	LEAF FcBbCreditModel
1.3.6.1.3.42.2.1.4.1.1	fcFxpPortC1AcctEntry	NODE
1.3.6.1.3.42.2.1.4.1.1.2	fcFxpPortC1AcctFxpPortIndex	LEAF FcFeFxpPortIndex
1.3.6.1.3.42.2.1.4.1.1.1	fcFxpPortC1AcctModuleIndex	LEAF FcFeModuleIndex

1.3.6.1.3.42.2.1.4.1	fcFxPortC1AcctTable	NODE
1.3.6.1.3.42.2.1.4.1.1.7	fcFxPortC1ConnTime	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.12	fcFxPortC1Discards	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.5	fcFxPortC1FbsyFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.6	fcFxPortC1FrjtFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.3	fcFxPortC1InConnections	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.8	fcFxPortC1InFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.10	fcFxPortC1InOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.4	fcFxPortC1OutConnections	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.9	fcFxPortC1OutFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.1.1.11	fcFxPortC1OutOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1	fcFxPortC2AcctEntry	NODE
1.3.6.1.3.42.2.1.4.2.1.2	fcFxPortC2AcctFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.4.2.1.1	fcFxPortC2AcctModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.4.2	fcFxPortC2AcctTable	NODE
1.3.6.1.3.42.2.1.4.2.1.7	fcFxPortC2Discards	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.8	fcFxPortC2FbsyFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.9	fcFxPortC2FrjtFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.3	fcFxPortC2InFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.5	fcFxPortC2InOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.4	fcFxPortC2OutFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.2.1.6	fcFxPortC2OutOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1	fcFxPortC3AcctEntry	NODE
1.3.6.1.3.42.2.1.4.3.1.2	fcFxPortC3AcctFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.4.3.1.1	fcFxPortC3AcctModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.4.3	fcFxPortC3AcctTable	NODE
1.3.6.1.3.42.2.1.4.3.1.7	fcFxPortC3Discards	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.3	fcFxPortC3InFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.5	fcFxPortC3InOctets	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.4	fcFxPortC3OutFrames	LEAF Counter
1.3.6.1.3.42.2.1.4.3.1.6	fcFxPortC3OutOctets	LEAF Counter

1.3.6.1.3.42.2.1.5.1.1.16	fcFxPortCapBaudRates	LEAF FcOBaudRateCap
1.3.6.1.3.42.2.1.5.1.1.5	fcFxPortCapBbCreditMax	LEAF FcBbCredit
1.3.6.1.3.42.2.1.5.1.1.6	fcFxPortCapBbCreditMin	LEAF FcBbCredit
1.3.6.1.3.42.2.1.5.1.1.12	fcFxPortCapClass2SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.5.1.1.13	fcFxPortCapClass3SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.5.1.1.9	fcFxPortCapCos	LEAF FcCosCap
1.3.6.1.3.42.2.1.5.1.1	fcFxPortCapEntry	NODE
1.3.6.1.3.42.2.1.5.1.1.3	fcFxPortCapFcphVersionHigh	LEAF FcphVersion
1.3.6.1.3.42.2.1.5.1.1.4	fcFxPortCapFcphVersionLow	LEAF FcphVersion
1.3.6.1.3.42.2.1.5.1.1.2	fcFxPortCapFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.5.1.1.14	fcFxPortCapHoldTimeMax	LEAF MicroSeconds
1.3.6.1.3.42.2.1.5.1.1.15	fcFxPortCapHoldTimeMin	LEAF MicroSeconds
1.3.6.1.3.42.2.1.5.1.1.10	fcFxPortCapIntermix	LEAF INTEGER
1.3.6.1.3.42.2.1.5.1.1.17	fcFxPortCapMedia	LEAF FcOMediaCap
1.3.6.1.3.42.2.1.5.1.1.1	fcFxPortCapModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.5.1.1.7	fcFxPortCapRxDataFieldSizeMax	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.5.1.1.8	fcFxPortCapRxDataFieldSizeMin	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.5.1.1.11	fcFxPortCapStackedConnMode	LEAF FcStackedConnMode
1.3.6.1.3.42.2.1.5.1	fcFxPortCapTable	NODE
1.3.6.1.3.42.2.1.1.5.1.13	fcFxPortClass2SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.2.4.1.10	fcFxPortClass2SeqDelivAgreed	LEAF INTEGER
1.3.6.1.3.42.2.1.1.5.1.14	fcFxPortClass3SeqDeliv	LEAF INTEGER
1.3.6.1.3.42.2.1.2.4.1.11	fcFxPortClass3SeqDelivAgreed	LEAF INTEGER
1.3.6.1.3.42.2.1.2.4.1.13	fcFxPortConnectedNxPort	LEAF FcAddressId
1.3.6.1.3.42.2.1.2.4.1.7	fcFxPortCosSuppAgreed	LEAF FcCosCap
1.3.6.1.3.42.2.1.1.5.1.10	fcFxPortCosSupported	LEAF FcCosCap
1.3.6.1.3.42.2.1.3.1.1.9	fcFxPortDelimiterErrors	LEAF Counter
1.3.6.1.3.42.2.1.1.5.1.19	fcFxPortDistance	LEAF FcODistance
1.3.6.1.3.42.2.1.1.5.1.9	fcFxPortEdtov	LEAF MilliSeconds
1.3.6.1.3.42.2.1.3.1.1	fcFxPortErrorEntry	NODE

1.3.6.1.3.42.2.1.3.1.1.2	fcFxPortErrorFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.3.1.1.1	fcFxPortErrorModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.3.1	fcFxPortErrorTable	NODE
1.3.6.1.3.42.2.1.2.4.1.4	fcFxPortFcphVersionAgreed	LEAF FcphVersion
1.3.6.1.3.42.2.1.1.5.1.4	fcFxPortFcphVersionHigh	LEAF FcphVersion
1.3.6.1.3.42.2.1.1.5.1.5	fcFxPortFcphVersionLow	LEAF FcphVersion
1.3.6.1.3.42.2.1.1.5.1.15	fcFxPortHoldTime	LEAF MicroSeconds
1.3.6.1.3.42.2.1.2.1.1.3	fcFxPortID	LEAF FcAddressId
1.3.6.1.3.42.2.1.2.4.1.8	fcFxPortIntermixSuppAgreed	LEAF INTEGER
1.3.6.1.3.42.2.1.1.5.1.11	fcFxPortIntermixSupported	LEAF INTEGER
1.3.6.1.3.42.2.1.3.1.1.8	fcFxPortInvalidCrcs	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.7	fcFxPortInvalidTxWords	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.3	fcFxPortLinkFailures	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.11	fcFxPortLinkResetIns	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.12	fcFxPortLinkResetOuts	LEAF Counter
1.3.6.1.3.42.2.1.1.5.1.17	fcFxPortMedium	LEAF FcOMedium
1.3.6.1.3.42.2.1.1.5.1.3	fcFxPortName	LEAF FcPortName
1.3.6.1.3.42.2.1.2.4.1.5	fcFxPortNxPortBbCredit	LEAF FcBbCredit
1.3.6.1.3.42.2.1.2.4.1.12	fcFxPortNxPortName	LEAF FcPortName
1.3.6.1.3.42.2.1.2.4.1.6	fcFxPortNxPortRxDataFieldSize	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.3.1.1.13	fcFxPortOlsIns	LEAF Counter
1.3.6.1.3.42.2.1.3.1.1.14	fcFxPortOlsOuts	LEAF Counter
1.3.6.1.3.42.2.1.2.1.1	fcFxPortOperEntry	NODE
1.3.6.1.3.42.2.1.2.1.1.2	fcFxPortOperFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.2.1.1.7	fcFxPortOperMode	LEAF FcFxPortMode
1.3.6.1.3.42.2.1.2.1.1.1	fcFxPortOperModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.2.1	fcFxPortOperTable	NODE
1.3.6.1.3.42.2.1.2.3.1.3	fcFxPortPhysAdminStatus	LEAF INTEGER
1.3.6.1.3.42.2.1.2.3.1	fcFxPortPhysEntry	NODE
1.3.6.1.3.42.2.1.2.3.1.2	fcFxPortPhysFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.2.3.1.5	fcFxPortPhysLastChange	LEAF TimeTicks

1.3.6.1.3.42.2.1.2.3.1.1	fcFxPortPhysModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.2.3.1.4	fcFxPortPhysOperStatus	LEAF INTEGER
1.3.6.1.3.42.2.1.2.3.1.6	fcFxPortPhysRttov	LEAF MilliSeconds
1.3.6.1.3.42.2.1.2.3	fcFxPortPhysTable	NODE
1.3.6.1.3.42.2.1.3.1.1.6	fcFxPortPrimSeqProtoErrors	LEAF Counter
1.3.6.1.3.42.2.1.1.5.1.8	fcFxPortRatov	LEAF MilliSeconds
1.3.6.1.3.42.2.1.1.5.1.7	fcFxPortRxBufSize	LEAF FcRxDataFieldSize
1.3.6.1.3.42.2.1.3.1.1.5	fcFxPortSigLosses	LEAF Counter
1.3.6.1.3.42.2.1.1.5.1.12	fcFxPortStackedConnMode	LEAF FcStackedConnMode
1.3.6.1.3.42.2.1.2.4.1.9	fcFxPortStackedConnModeAgreed	LEAF FcStackedConnMode
1.3.6.1.3.42.2.1.3.1.1.4	fcFxPortSyncLosses	LEAF Counter
1.3.6.1.3.42.2.1.1.5.1.18	fcFxPortTxType	LEAF FcOTxType
1.3.6.1.3.42.2.1.2.4.1	fcFxlogiEntry	NODE
1.3.6.1.3.42.2.1.2.4.1.2	fcFxlogiFxPortIndex	LEAF FcFeFxPortIndex
1.3.6.1.3.42.2.1.2.4.1.1	fcFxlogiModuleIndex	LEAF FcFeModuleIndex
1.3.6.1.3.42.2.1.2.4.1.3	fcFxlogiNxPortIndex	LEAF FcFeNxPortIndex
1.3.6.1.3.42.2.1.2.4	fcFxlogiTable	NODE
1.3.6.1.2.1.8888.2.1.1	fcMgmtCompliance	NODE
1.3.6.1.2.1.8888.2.1	fcMgmtCompliances	NODE
1.3.6.1.2.1.8888.1.1	fcMgmtConfig	NODE
1.3.6.1.2.1.8888.2	fcMgmtConformance	NODE
1.3.6.1.2.1.8888.2.2	fcMgmtGroups	NODE
1.3.6.1.2.1.8888	fcMgmtMIB	NODE
1.3.6.1.2.1.8888.0	fcMgmtNotifications	NODE
1.3.6.1.2.1.8888.1.2	fcMgmtNotifyFilter	NODE
1.3.6.1.2.1.8888.1	fcMgmtObjects	NODE
1.3.6.1.2.1.8888.1.4	fcMgmtSNS	NODE
1.3.6.1.2.1.8888.1.3	fcMgmtStatistics	NODE
1.3.6.1.4.1.289.2.1.1	fcSwitch	NODE
1.3.6.1.2.1.8888.1.2.2	fcTrapClientCount	LEAF Unsigned32

1.3.6.1.2.1.8888.1.2.1	fcTrapMaxClients	LEAF Unsigned32
1.3.6.1.2.1.8888.1.2.3.1	fcTrapRegEntry	NODE
1.3.6.1.2.1.8888.1.2.3.1.3	fcTrapRegFilter	LEAF FcEventSeverity
1.3.6.1.2.1.8888.1.2.3.1.1	fcTrapRegIpAddress	LEAF IpAddress
1.3.6.1.2.1.8888.1.2.3.1.2	fcTrapRegPort	LEAF Unsigned32
1.3.6.1.2.1.8888.1.2.3.1.4	fcTrapRegRowState	LEAF RowStatus
1.3.6.1.2.1.8888.1.2.3	fcTrapRegTable	NODE
1.3.6.1.3.42	fibreChannel	NODE
1.3.6.1.4.1.289.2.1	fibreChannel	NODE
1.3.6.1.2.1.5	icmp	NODE
1.3.6.1.2.1.5.13	icmpInAddrMaskReps	LEAF Counter
1.3.6.1.2.1.5.12	icmpInAddrMasks	LEAF Counter
1.3.6.1.2.1.5.3	icmpInDestUnreachs	LEAF Counter
1.3.6.1.2.1.5.9	icmpInEchoReps	LEAF Counter
1.3.6.1.2.1.5.8	icmpInEchos	LEAF Counter
1.3.6.1.2.1.5.2	icmpInErrors	LEAF Counter
1.3.6.1.2.1.5.1	icmpInMsgs	LEAF Counter
1.3.6.1.2.1.5.5	icmpInParmProbs	LEAF Counter
1.3.6.1.2.1.5.7	icmpInRedirects	LEAF Counter
1.3.6.1.2.1.5.6	icmpInSrcQuenchs	LEAF Counter
1.3.6.1.2.1.5.4	icmpInTimeExcds	LEAF Counter
1.3.6.1.2.1.5.11	icmpInTimestampReps	LEAF Counter
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